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The Use and Application of Vowel Gradation in the Germanic Languages

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Abstract

This dissertation charts the development of ablaut phenomena in the strong verb system of the Germanic languages Gothic, Old English, Old Saxon, Old High German and Old Norse. It traces the highly developed morphonology of the strong verbs and seeks to ascertain the degree to which Germanic owes its systematicity to forms evidenced in dialects from earlier periods of the Indo-European group. Greek and Sanskrit, two highly morphologized Indo-European languages, provide the basis for a comparative study of general Indo-European forms against the specific forms from the Germanic languages, although the inherent periodizational difficulties of such a comparison will be carefully considered. The nature and history of ablaut as an Indo-European morpheme will be investigated and considered (Chapter 2) before looking at the use of ablaut alternations in Sanskrit and Greek in particular (Chapter 3) from which basis the evidence from the Germanic languages listed above can be presented and evaluated (Chapter 4). Chapter 5 compares the two sets of data and offers suggestions for an explanation of the difficult cases in Germanic, such as the lengthened grade forms of Classes 4 and 5, the vowel /ē²/ and the role played by reduplication. The nature of reduplication and its relevance for Germanic will be dealt with in an excursus. Chapter 6 draws strands together and looks at the system as a whole, drawing conclusions about the degree to which Germanic has inherited forms seen elsewhere in Indo-European. The appendices include a comprehensive list of the Germanic strong verbs, their forms and the dialects in which they are found.

For my Grandparents

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There are various people without whose help and encouragement I may never have reached the point of submitting this thesis. Their faith in me and their confidence in my abilities spurred me on through those periods when I felt I would never see the light at the end of the tunnel. I would particularly like to thank Mark Campbell, Mark Allinson, Alison Williams and Rhiannon Purdie who have always been ready with their support and friendship.

One person in particular is responsible for the fact that this thesis has reached fruition. This is my supervisor, Frank Shaw. I owe him many thanks for his gentle praise and his harsh criticism, without which I would never have felt able to submit the dissertation. His easy character has meant that I have found a friend as well as a mentor; something which I will not forget.

Declaration

The work contained in this thesis is entirely a result of my own work. Where use is made of the work of others, due reference has been made. A section of chapter 5 dealing with lengthened grade forms in the Germanic strong verb Classes 4 and 5 was presented as a paper at a conference in Dublin ("The Germanic Verb") in May 1996.

The views expressed in the dissertation are entirely my own and in no way reflect those held by the University of Bristol.

Freiburg i. Br., 10th June 1997

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c) Abbreviations

BSL Bulletin de la Société de Linguistique de Paris

C Consonant

Gk. Greek (Classical)
Gmc. Germanic
Go. Gothic

IE Indo-European
IF Indogermanische Forschungen

JIES Journal of Indo-European Studies

KZ Zeitschrift für vergleichende Sprachforschung [= Kuhns Zeitschrift]

Lat. Latin
Latv. Latvian
LB Leuvense Bijdragen
Lit. Lithuanian

N Nasal, /m,n/
NLLT Natural Language and Linguistic Theory
NPers. New Persian
NTS Norsk Tidsskrift for Sprogvidenskap

OBulg. Old Bulgarian
OCS Old Church Slavic
OE Old English
OHG Old High German
OI Old Indic
OIce Old Icelandic
OLit. Old Lithuanian
ON Old Norse
OS Old Saxon
OSw Old Swedish

PBB Beiträge zur Geschichte der deutschen Sprache und Literatur [= Paul/Braune Beiträge] (*Tüb*ingen or *Halle* when appropriate)

R Liquid, /l,r/
RHA Revue Hittite et Asianique

S Sonant, /m,n,l,r,i,u/
Skt. Sanskrit

Toch Tocharian

V Vowel, /a,e,o,(i,u)/

ZDL Zeitschrift für Dialektologie und Linguistik
ZdPh Zeitschrift für deutsche Philologie

1. Aims and General Introduction

The title of this investigation ("The use and application of Vowel Gradation in the Germanic Languages") needs some clarification. The actual subject matter is more restricted than the title implies and I want now to explain the goals I hope will be achieved and the methodology I shall use in achieving them.

To start with a simple definition that will enable me to clarify my aims and outline the fundamental issues (although this definition may later require some revision): ablaut[1] is a type of vowel alternation which performs a grammatical function as in English *sing*, *sang*, *sung* where it distinguishes different tense forms of the lexeme SING (vb). That my example is taken from a verb is central to my investigation. As will increasingly become clear, the verbal system in Germanic utilizes ablaut as a tense-marker to quite a complex extent. In all of the modern Germanic languages ablaut is used to the same end as the above example of English *sing*. Although different languages have different inventories of verbs which show ablaut, the core stock of verbs is similar in each of the Germanic languages. The Germanic verbal system therefore provides a very developed system of ablaut, and as a result it is on this system that I wish to concentrate my efforts, even though I am fully aware that ablaut relationships hold elsewhere in Germanic, for example, and especially, in derivation between word-groups (i.e. deverbative nouns, suffixes, etc.).

My aim is to try and establish the degree to which the Germanic languages use ablaut relationships which are inherited from Indo-European and its system of tense-formation. Some aspects of the Germanic ablaut system will be seen to be clearly related to patterns observable in earlier Indo-European languages, while others, more opaque, seem not to resemble observable features of these earlier languages, but may on closer examination indeed be seen to resemble earlier general patterns. I aim to ascertain whether the whole of the Germanic system derives ultimately from Indo-European prototypes, or whether Germanic re-models patterns from the earlier periods, or whether it, in fact, invents new patterns to fulfil the same purposes in verbs for which no Indo-European form provided an adequate model.

With this aim in mind I shall confine myself to a study of the earliest stages of the Germanic branch of languages, these earliest stages clearly being closest to the Indo-European prototypes. Thus my Germanic material will be drawn from Gothic (Go.), Old High

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[1] I shall use the German term throughout, since it is more succinct than the English "Vowel Gradation". The anglicization of the term ablaut, that is lower case, will be used throughout reflecting its acceptance as a universal term for the phenomenon. The term originates from the work of GRIMM in the nineteenth century, who coined it to refer to exactly the vowel alternation which is the basis of the present work.

German (OHG), Old English (OE), Old Saxon (OS) and Old Norse (ON). These five languages are not contemporaneous in their surviving written documents. Gothic survives only in fragmentary texts from the 4th century AD, whereas OHG, OE and OS survive in texts which date only as far back as the 7th century. At the other extreme, Classical Old Norse, the language of the sagas and Eddas, only survives in large-scale texts from the 11th century onwards. As a result, we must be careful not to make direct comparisons between these languages, but must constantly recognize the diachronic discrepancies which exist between the textual evidence we have of them. This is not to say that we may not make comparisons at all, but that we must be aware of the intervening periods between the setting down in written form of the various dialects; periods in which many developments may have taken place for which there is no concrete evidence. The opacity which these time-differences cause makes possible widely differing theories, an overview of which I shall give later in this thesis as a guide to the wealth of divergent thinking that has existed and still does exist amongst scholars in the field of Germanic ablaut.

I shall begin by examining the evidence from the Indo-European group. My starting-point for an earlier period will be Greek and Sanskrit, along with, to a lesser extent, Latin. These three each represent a different branch of the Indo-European tree of languages. Each of them also represents a stage in the development of the Indo-European languages before that recorded for the Germanic branch. From a comparison of Greek, Sanskrit and Latin we will be in a position to establish general trends holding for Indo-European languages of an early period. The range of languages selected for study makes no claim to exhaustiveness, but is determined entirely on the basis of their usefulness in enabling me to chart developments in ablaut relationships. The extent to which these chosen languages reflect proto-Indo-European is a moot point; but in a study which has as its central focus morphological and morphonemic comparison between dialect groups the use of dialects which are perhaps overburdened with morphological complexity, as in the case of Sanskrit, Greek and Latin, ensures a greater wealth of forms from which to extract correlations pertinent to the Germanic data. Evidence from other IE languages will be drawn upon where necessary and useful, but I make no claims to exhaustiveness in the uncovering of such evidence from other languages. This may seem unfortunate, but from the point of view of providing diverse data on IE ablaut, the languages I shall concentrate on are of greater importance. The aim of the study is not to establish the relationship between the IE languages I am using and Germanic, but is rather to establish what of the Germanic verbal ablaut system is not IE in origin, a question which can be dealt with to a certain extent in abstraction from the question of the genealogical affinities of the various dialect groups within IE.

I shall then investigate the evidence we possess from the Germanic branch. These early Germanic dialects/languages will be compared with one another, bearing in mind the difficulties in doing so, in order to establish important trends in their verbal ablaut systems, so that from these trends a putative common Germanic system can be set up, which will reflect what is common to all dialects. The very setting-up of such a system will highlight problems in the development of the system within the individual languages and these problems will become subjects for discussion later in the investigation. Where languages diverge, this may be a sign of uncertainty in the modes of morphology at an earlier period of the development of the Germanic branch; and these uncertainties themselves will provide an insight into the relationship between Germanic as an enclosed group and its Indo-European inheritance.

The comparison of Common Germanic with earlier Indo-European trends will, it is hoped, provide the evidence needed to explain the developments in the Germanic branch. With this evidence I shall be able to establish the nature of ablaut in Germanic and the degree to which it owes its structure to trends visible in Indo-European languages of an earlier period, and thus to an Indo-European inheritance of verbal morphology, phonology and suprasegmental phenomena. By the same token, what cannot be traced back to or linked with formations in earlier Indo-European can be ascribed to Germanic innovations. This innovation can subsequently be evaluated in the light of the evidence from Greek and Sanskrit in regard to a re-modelling along different lines of basic trends existing earlier, even if the actual forms are not evident in the earlier periods.

Using this comparative methodology, it will become clear in the course of the investigation how systematized the Germanic verbal system of ablaut is when set against earlier Indo-European examples which, nevertheless, themselves provide parallels for the Germanic system.

In investigating the verbal system in this way, there is one area in particular which, although not strictly an ablaut problem, is nevertheless inextricably linked with the development of the Germanic ablaut series. This is the problem and status of reduplication in Germanic as we find it in the seventh class of strong verbs in Gothic. How Germanic deals with reduplication plays an important role for 7th class verbs in the other dialects; as a result I shall, in an excursus, examine the nature of reduplication, its usage in early Indo-European and then its treatment in Germanic, where its fate cannot be disentangled from the appearance of the mysterious vowel /e^2/.

This then has broadly outlined my general aims. The details of these aims will become clear and will present themselves as I progress through the investigation from Indo-European through Germanic and to an explanation of the data, following which I shall be able to pull the strands together and attempt an answer to my question of the degree of innovation in Germanic and the concomitant problem concerning the degree of inheritance of morphological patterning from Indo-European.

2. Introduction and Definition

2.0 Ablaut and Umlaut

Vowel Gradation is a notoriously difficult phenomenon to define concisely and exactly. It has been described facetiously by my supervisor as "the one regular phonological change or alternation left over when all the others have been explained". Though perhaps not a very satisfactory explanation of the situation, it does highlight the difficulties involved in trying to be precise about what exactly ablaut is. TRASK (1996) is more specific: he defines ablaut as:

> A morphological process expressed by a change in the quality of a vowel within a root or stem for purely grammatical purposes, with the vowel alternation typically serving as the only exponent of the grammatical distinction. English examples include the inflectional patterns exhibited by 'strong' verbs like *sing/sang/sung* and *write/wrote/written*. The term is most usually applied to such phenomena in the older Indo-European languages, in which it was grammatically central: Latin *tegō* 'cover' but *toga* 'toga', Greek *legō* 'read' but *logos* 'word', Latin *sedeō* 'sit' but *sodālis* 'companion'; but it is also sometimes applied to similar phenomena in other languages. Ablaut differs from umlaut only in its historical source: originally, 'ablaut' was applied to cases of vowel alternation for which no phonetic motivation could be identified.

The idea of "residuality" contained in my opening definition is to be found here too, and it is this that distinguishes ablaut from umlaut, for which phonetic motivation can be identified; cf. TRASK (1993) on umlaut:

> A type of inflection ... as in tooth/teeth and mouse/mice. Umlaut differs from ablaut only in its historical source, and both terms are usually only used by linguists who are aware of the historical facts.

These quotations from TRASK illustrate another important distinction between ablaut and umlaut, namely that the best examples of ablaut are to be found in the Germanic languages among the strong verbs, that is those verbs which do not form their past tense and their past participle using a dental suffix (/t,d,þ or ð/) between the stem and the personal and/or number endings; whilst in the case of umlaut the best and most intelligible examples, at least in English, are found in the formation of the plural for a few nouns. But the definitions are still not comprehensive enough for our purposes. A difficulty may be seen in the choice of terminology in German. The terms are so similar that they may easily be confused.

Do the English names for these two phenomena shed any more light on the definition problem? Hardly. Ablaut has usually been translated in English as vowel gradation and umlaut as vowel mutation. Is this helpful? *Chambers Twentieth Century Dictionary* defines mutation as "discontinuous variation or sudden inheritable divergence from ancestral type". The etymology of the term is Latin *mutare* "to change", and the emphasis of the term is

change and variation. Gradation on the other hand has as its etymology Latin *gradus* "a step", and Chambers defines it as "a degree or step: a rising step by step: progress from one degree or state to another: position attained: state of being arranged in ranks". This takes us no further, and this is because all the definitions so far are looking at the problem from a synchronic perspective. In effect, this is at odds with our very definition of the term mutation. Mutation, as change, necessarily demands a diachronic or historical perspective in order to define it. Gradation, on the other hand, suggests that the alternations are not historically relevant; they do not, in any sense, constitute change, but rather are deliberately ranked alongside each other, and used according to whatever the situation demands. The alternations have equal standing in the grammar. The changes in mutation are a result of external factors, or rather of unmotivated factors, whereas the term gradation implies that ablaut is a result of motivated factors; or at least that is what we are led to believe.[1]

In order to start us on our way, it would be a good idea at this stage to have a brief look at the development of Germanic umlaut, that we may compare its development with that of ablaut, which I shall then elucidate.

The type of umlaut which we see in Modern German and which is most consistently notated using two superscribed dots (ä,ö,ü) has a history which can be detailed with certainty from the written evidence we have for the Germanic languages. It derives from a regular phonological change in the early stages of the written languages of the Germanic branch. If we take for example the OHG word *gast* meaning "guest", a word cognate with Latin *hostis* "enemy", originally "stranger", we observe that its plural is *gesti*, the root vowel /a/ of the singular having bevome /e/ in the plural. The reason for this difference in the root vowel appears to be the effect of the following vowel, that is the vowel in the subsequent syllable, the ending. Whereas in the nominative singular form (*gast*) the ending seems to have been lost, in the plural it is still present and contains a high, front vocal element, an /i/. The preceding root vowel is assimilated in the direction of the following /i/, being raised to an /e/. During the OHG period this mutation of the root-vowel according to the quality of subsequent vowels is in the early stages of development. Some dialects exhibit the change more than others, and some words seem to be more susceptible than others: BRAUNE (1987, §215). Similar mutations occur in the other dialects, except in Gothic, the evidence for which seems to predate the onset of the change.[2] The change, of course, has two stages: 1.

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[1] As we shall find out, during the course of this investigation, the origins of both phenomena may not be so very dissimilar, but may, in fact, result from comparable factors.

[2] This discussion of umlaut is somewhat simplified and perhaps overlooks some of the issues, but a detailed examination would be out of place here, where my aim is to define the change known as ablaut. Reference should be made to PROKOSCH (1939, 107-112) who handles the changes in much greater depth linking the trends of mutation with the Germanic Vowel Shift. For detailed discussion of the mutation in the individual dialects, the reader should consult the relevant handbooks: CAMPBELL

the phonetic stage and 2. the phonemic stage. In the first, the mutation will occur without its being recognized as such by the speakers; in this stage we might be less likely to encounter the change symbolized in texts. In the second stage the mutation is recognized as a change and the resultant mutated vowel is either phonemicized in its own right or is aligned with an existing phoneme of the same quality. At this stage we expect the mutation to be marked explicitly in texts. The change of /a/ > /e/ is beginning to be established in the OHG period the subsequent changes of /o/ > /ø/, and /u/ > /y/ are still undefined in this period, but make their mark during the MHG period and later. A reason for this might be the fact that for the change of /a/ > /e/ the Latin alphabet, at the time, provided a symbol and the language had a phoneme /e/ with which the mutated vowel could be identified; whereas for mutated /o,u/ there was no symbol available and there was no existing phoneme with which they could be identified.

What I hope to have shown here is the type of development which the term umlaut encompasses before now trying to show exactly what ablaut is. It will be seen that both terms characterize phonetic processes which later become phonological and then take up a position in the morphological sector of the grammar. Umlaut has become a marker in Modern German for plural formation as a result of its chance appearance in the plurals of words deriving from IE *i*-stem nouns. The umlaut becomes linked with the formation of the plural of some forms and then is extended to other words which are not historically IE *i*-stems. In this way umlaut spreads throughout the lexicon and has become morphemicized as a plural-marker. In the same way umlaut has become a marker of the preterite subjunctive as a result of its appearance in this position in the verbal conjugation because of the subjunctive endings originally containing an *i*-element. The umlaut became associated with the subjunctive and is now a marker for it in those verbs which show umlaut.

2.1 Ablaut and its Extent

Having briefly outlined the development of ablaut's sister term, umlaut, it is time to devote our attention to the subject at hand, in order that we may see that, to all intents and purposes, the two phonological changes that the terms represent are really rather comparable, their differences being buried in the history of the various languages and dialects concerned. We shall see that ablaut is found in proto-Indo-European and was then utilized by various groups of the IE family to carry out morphological functions at the period when the phonological change had become morphemicized. Having become associated with particular grammatical functions in the language, the vowel change, or by this time alternation, could be used to carry out morphological tasks.

(1959, §190-221) for OE, BRAUNE (1987, §51-52) for OHG, GORDON (1990, §32-45) for ON, GALLÉE (1910, ch. III), HOLTHAUSEN (1921, §115) and RAUCH (1992, *passim*) for OS.

This use of vowels as a grammatical function marker is not something that is confined to the languages of Indo-European under investigation in the present work. The following passage from MEILLET (1915, 133-134) shows how in Arabic a similar kind of vowel alternation is used in giving functional meaning to roots:

> C'est dans les expressions sémitiques qu'on voit le mieux quel rôle peuvent jouer dans une grammaire [les alternances vocaliques]. Une racine arabe n'est caractérisée que par ses consonnes; quant aux voyelles, chaque consonne de chaque racine peut être suivie de ă, ā, ĭ, ī, ŭ, ū ou zéro, soit en tout sept formes, et chacune de ces sept formes sert à caractériser la fonction grammaticale. Soit la racine arabe *q t l* «tuer», son parfait actif est *qatala*, son imparfait actif *ya-qtulu*, son parfait passif *qutila*, son imparfait passif *yu-qtalu*, son parfait actif de troisième espèce *qātala*, l'imparfait correspondant *yu-qātilu*, le parfait passif *qūtila*, l'imparfait *yu-qātalu*, l'infinitif du premier type *qatlun*, le participe *qātilun*, etc.[...] Les voyelles ne servent qu'à la formation des mots et à la flexion, et la signification de la racine est attachée seulement aux consonnes.

In conjunction with affixes, the vowels in this Arabic example serve, as MEILLET says, to define the grammatical function of the verb within an utterance or sentence. This Arabic example is highly systematized with a large number of possible alternation patterns, and this system operates quite regularly throughout the language, giving roots syntactical and grammatical function.[3] In Indo-European, however, the vowel alternation we call ablaut is not quite as systematized, though it does produce a number of different alternants.

Let us take an example from Indo-European to see exactly what shape and form these alternants can take. The following are from Greek and show the possibilities of ablaut alternation using the word πατηρ meaning "father". The syllable in question is the second (πατήρ).

πατέρα	– "father" (accusative sing.)
πατήρ	– "father" (nominative sing.)
πατρός	– "of father" (genitive sing.)
ευπατορα	– "born of a noble father" (Adj. accusative sing.)
ευπατωρ	– "born of a noble father" (Adj. nominative sing.)

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[3] Arabic does not quite fit into the ablaut schematization that I shall be detailing for Indo-European. Arabic verbs, traditional scholarship goes, are constructed entirely of consonants; that is, the consonants alone are the lexeme of the verb, and the stem consists of these consonants and no vowels, that is, no vowel-pattern is regarded as providing the stem, or base-form, for the conjugation of a particular verb. The patterning of the vowels in the conjugation of Arabic verbs has provided the platform for autosegmental/nonconcatenative theories of morphology, especially MCCARTHY's prosodic morphology. For detailed discussion of this see MCCARTHY (1979 & 1981), BROSELOW/MCCARTHY (1983) and MCCARTHY/PRINCE (1990); also simplified in KATAMBA (1993, 165-179) and SPENCER (1991, 131-162). BERGENHOLTZ/MUGDAN (1979, 59) call this kind of vocalic alternation "transfixation", which likewise sees the consonants as the lexematical elements and the vowels as additions to the consonantal root.

The syllable in question in these five forms appears with a different vowel or vocalism in each case. The first has the IE short vowel /e/, the second the long vowel /ē/, the third has no vowel and the syllable has in effect disappeared, the fourth has IE /o/ and the fifth its long counterpart /ō/.

These five examples show that ablaut is a more complex phenomenon than umlaut and the explanation we gave for that phonological change. In the forms from Greek there are five possibilities of vowel for the syllable under consideration and from the evidence of the structure of the examples one clear explanation for the development of everything we term ablaut seems impossible. What we must do, in fact, is categorize our ablaut alternations according to type. If we look again at the first three examples (πατέρ, πατρός, πατήρ), we see that the differences between each of the forms is one of length of the syllable in question. In the first we have what we might term a full vowel /e/, in the second this vowel has been reduced to zero, there is no vowel, it has been lost, and in the third the full vowel has been lengthened to /ē/. These three alternants show differences in relation to their quantity and as a result they are grouped under the term quantitative ablaut (Ger. Abstufung). The first alternant with /e/ is called the full grade (Ger. Vollstufe)[4] and is the base from which the other alternants are derived. From it the second alternant, /Ø/, is derived by a process of reduction, the /e/ is reduced to zero: hence the terms zero-grade (Nullstufe), when the full grade vowel is reduced to zero, and reduced grade (Reduktionsstufe) when a vestige of the original vowel remains, perhaps in the shape of /ə/[5] . The two forms with /o/, short and long, show a different type of vowel, one with a different quality from /e/. An /o/ cannot be derived from an /e/ by any means of shortening or lengthening, rather the /o/ represents a change of vowel quality. Thus this type of ablaut is referred to as qualitative ablaut (Ger. Abtönung), and the grade of ablaut with /o/ as o-grade or sometimes deflected grade. Of course once deflected the new /o/ can undergo lengthening and shortening just like the /e/, and so we get /ō/ as in the last example.

We must also bear in mind that the development of ablaut is supradialectal. It was present in the parent language and its effects are seen in all the IE daughter languages. This is an important distinction between it and other phonological developments and we must therefore beware of forms which ostensibly show ablaut, but which actually show nothing more than vowel change as a result of language internal mutation, the effects of which have no comparison in other language groups.[6] Ablaut seems to have developed in proto-Indo-

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4 Although I shall use the German term ablaut throughout, when speaking of the various grades I shall use the English terms. However, the reader will, of course, find the German terms in the literature on the subject (and not merely in works written in German).

5 Schwa is the result of the reduction of long vowels, but see **2.2.2** for more on this and the role of laryngeals for long vowels and their reduction.

6 In explaining this point I bear upon the explanation given by SZEMERÉNYI (1990, 86f.)

European, so that this change could be passed on to the various groups of the language family, as they followed their own line of development from the parent language.

Another example of a phonological change which appears to be a kind of ablaut but which does not fit into our scheme can be seen if we take the Latin forms *fac-*, *fec-*, *fic-*. We can deduce a vowel alternation through these forms, perhaps one of progressive reduction and subsequent raising of the vowel. However, these are all allomorphs. That is, grammatically and functionally, they show no difference. It is true that the second two are usually found in derivation, but nevertheless the phonological distinctions have been caused by a shift of accent within Latin itself. As Latin moved from the inherited free accent[7] of Indo-European to an accent fixed upon the initial syllable, the effect was that of a weakening of subsequent syllables:[8]

e.g. *faciō - confectus - conficiō*

(The vowel in an open syllable was reduced further than that in closed syllables.)

Ablaut occurs in all of the early forms of the languages of the Indo-European group, which would imply that it was inherited. This vowel modification from Latin only occurs in this way in that language and is as a result not defined as gradation as we shall discuss it in the present investigation. It is of interest and importance only at a language-internal level.

It would be apposite at this point to have a look at some examples of the vowel alternations termed ablaut from different IE languages.

Gk.	δέρκομαι "I see"	δέδορκα "I have seen"	ἔδρακον "I saw"
Gk.	πένθος "suffering"	πέπονθα "I have suffered"	ἔπαθον "I suffered"
Lat.	*necō* "I kill"	*noceō* "I damage"	
Lat.	*tēgula* "tile"	*toga* "toga"	
OHG	*bindan* "bind" Pres.	*band* "bound" pret.sg.	*bundum* "bound" pret. pl.
Sk.	*dvésmi* "I hate"		*dvisánti* "they hate"

In the three columns above the first represents full e-grade, the second o-grade and the third zero/reduced grade. The details of these examples will be dealt with later but these few examples show the range of forms which undergo some kind of ablaut relationship and also how they relate to similar examples in other IE languages. One of the clearest examples of

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[7] Free accent does not mean that the accent can fall anywhere in a word at the whim of the speaker, but that the accent is not bound to a specific syllable in *every* word by the grammar of that language, as, for example, in Polish where the accent regularly falls on the penultimate syllable or in French on the last, or in German usually on the first, in contrast to languages such as English or Russian where the accent is not fixed but regularly falls on any syllable depending on the word itself, or the form the word takes in a given situation (compare the accent of *discount* used as a verb and as a noun).

[8] Of course at a later stage Latin developed a system of accent which relied on the weight of a syllable in conjunction with its position from the end of a word; it is just such vocalic phonological changes, as in the case of *fac-/fec-/fic-*, which serve to illustrate the fact that Latin must have had a different type of accent at an earlier but post-Indo-European point in its development.

how Abstufung (qualitative gradation) affected the ancient languages is shown by an examination of the verbum substantivum "to be" in the various daughter languages.

Sk.	Gk[9]	Lat.	OCS	OHG	OE
ásmi	εἰμί	*sum*	*esmь*	[*bim*][10]	*eom*
ási	εἶ	*es*	*esi*	[*bist*]	*eart*
ásti	ἔστι	*est*	*estь*	*ist*	*is*
smás	ἐσμέν	*sumus*	*esmь*	[*birum*]	*sindon*
sthá	ἔστε	*estis*	*este*	[*birut*]	*sindon*
sánti	εἰσί	*sunt*	*setь*	*sint*	*sindon*

From examples such as those in the table above one can clearly see the common accentual distribution giving weak and strong forms. That is, if we take the Sanskrit paradigm: the singular forms have a strong grade of the root vowel /a/, in contrast with the plural forms which have lost this vowel as a result of suffix accentuation, and thus show what is termed weak grades. Strong grades are, therefore, ones which exhibit a full grade vowel, weak grades are ones which have become subject to reduction through weakening and may show zero, as in the Sanskrit examples, or a weakened vowel, as we saw in the form επαθον in the previous table.[11] In Greek the root vowel has managed to survive almost unscathed, in the other languages, however, the distinction between the third person singular form and the third person plural form shows the ancient accentuation clearly.

In showing these examples we have, then, made a crucial correlation, namely, that there is a link between ablaut and the positioning of the stress in a word, although, as we shall see later, this link must not be over-emphasized especially in the case of Abtönung. One should not make the mistake of assuming out of hand that stress is responsible for all vowel alternations of this type.

Accent is perhaps clearly associated with quantitative gradation; the reduction or loss of a vowel in an unstressed position is quite understandable. And as was seen in the above example of the verbum substantivum, Sanskrit provides excellent illustration of how such an accent-conditioned phonological change became systematized, especially throughout the athematic present classes of verbs. Thus:

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[9] Doric has forms which are more representative of the IE inherited forms and conjugations, especially for the third person plural: 1st sing. ἠμί/εἰμί, 3rd sing.ἐσσί, 1st pl. ἠμές/εἰμές, 3rd pl. ἐντί. A σ before μ is lost and causes lengthening of the vowel, thus εἰμί from *ἐσμί.

[10] The bracketed forms show suppletive tense construction. Here Old High German makes use of a different root to supply the required forms. OE also has the forms: *bêo*, *bist*, *biþ*, *bêoþ*.

[11] The weakening of Greek /en,on/ can produce /a/ with loss of the following nasal. This a regular development of the reduction of a full vowel and a following nasal.

Root-class(I)		Redupl.-class(III)	*nu-*, *u*-class(V&VIII)
dvis- "hate"		*hu-* "sacrifice"	*su-* "press out"
Sg.1	*dvésmi*	*juhómi*	*sunómi*
2	*dvéksi*	*juhósi*	*sunósi*
3	*dvésti*	*juhóti*	*sunóti*
Pl.1	*dvismás*	*juhumás*	*sunumás*
2	*dvisthá*	*juhuthá*	*sunuthá*
3	*dvisánti*	*júhvati*[12]	*sunvánti*

In Greek the athematic verbs, that is those of the μι-conjugation, also have an alternation in the root vowel corresponding to the distribution of the strong and weak grades of the Indian athematic verbs shown above.

Thus:

	"place"[13]	"set"	"give"
Sing. 1	τίθημι	ἵστημι	δίδωμι
2	τίθης	ἵστης	δίδως
3	τίθησι	ἵστησι	δίδωσι
Plu. 1	τίθεμεν	ἵσταμεν	δίδομεν
2	τίθετε	ἵστατε	δίδοτε
3	τιθέασι	ἱστᾶσι	διδόασι

The distribution is directly comparable with Sanskrit:[14]

Sk. *e* : *i*	Gk. η : ε / η : α
o : *u*	Gk. ω : o

The distinction between the two, however, rests on the placement of the accent. Sanskrit had free accent, which meant it could conceivably fall on any syllable, whereas Greek had conditional free accent and it could only fall on one of the last three syllables of a word, but was further regulated by long syllables in these positions. In the conjugation of verbs, accent was typically thrown as far back towards the beginning of the word as was possible under the rules of Greek prosody.[15] Nevertheless, in the example above the IE accent distribution, retained in Sanskrit, is evident from the distribution of the Greek vocalism, long vowels appear in syllables which would have borne the accent in Indo-European and short vowels show that these syllables had lost the accent in Indo-European and had been weakened as a result.

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[12] In the weak forms of this class the normal accentuation of the termination is found with the exception that the accent is thrown back on to the reduplicating syllable when the termination begins with a vowel.

[13] One ought to add that these Greek verbs correspond to the Indian reduplicating class III.

[14] Sk. /e,o/ in fact take the place, respectively, of earlier /ai,au/ so that the alternations *e:i* and *o:u* do, in fact reflect what we see in Greek. The question of Sanskrit phonology will be discussed in more detail in chapter 3.

[15] See **2.2.1** for a discussion of the accentual rules of Greek.

2.2 Pitch versus Stress in an Explanation of Ablaut

The prevailing view amongst many grammarians in the nineteenth century regarding the origins of the alternation termed by GRIMM ablaut, is that the two types, qualitative and quantitative (both of which I defined in the preceding section), are derived from the two types of accent existing within the IE group of languages. It had been established that Indo-European exhibited the use of two types of accent, one which was based on stress, i.e. amplitude modulation, and one which was based on pitch, frequency modulation. This view is still seen in PROKOSCH (1939):

> [...] Gradation is a reflex of the two accent types of Indo-European. Pitch accent led to an alternation between front and back vowels [...] Stress accent resulted, on the one hand in the weakening or loss of unstressed vowels, on the other hand, under certain circumstances, in a lengthening of overstressed vowels. (120)

Such an explanation of the data seems in retrospect quite understandable. As has been seen, the link between accent and quantitative ablaut is almost self-evident; from here it seems acceptable to assume that qualitative ablaut is also a result of accent patterning, and with a different type of accent being found in early Indo-European, it seems reasonable to assume that this might be the culprit. The problem with such a view as this is that the two kinds of accent are not quite as neatly separable as PROKOSCH, in this quotation, seems to be saying. Stress is not purely amplitude modulation, but may in fact have a concomitant frequency modulation incidental to the increased loudness. As ALLEN (1973, 75) states, in those languages where stress is located on a syllable of low pitch, a non-native speaker is likely to hear the stress on a syllable of high pitch, and in reproducing the utterance will duly place the stress on the syllable with the highest pitch. ALLEN's example is an English speaker reproducing the accentual pattern of Hindi. Roman JAKOBSON (1971b, 117) has the same opinion that stress is often inextricably bound to pitch; this is perhaps something we might note in English.

> Die traditionelle Einteilung der Sprachen in solche mit d y n a m i s c h e r und solche mit m u s i k a l i s c h e r Betonung ist in der letzten Zeit einer vernichtenden phonetischen Kritik unterworfen worden. Die Autoren die behaupten, daß die Unterschiede in der Stärke des Stimmtones öfters ziemlich fest mit den Unterschieden in der Höhe des Stimmtones verbunden sind, haben vom p h o n e t i s c h e n Standpunkt aus recht. (JAKOBSON 1971b, 117)

The critical thing in these ideas is that people's perception of stress is difficult to pin down and identify. The fact that speakers of different languages hear accent in different parts of the word because of the way they perceive stress means that it is difficult to neatly distinguish pitch from dynamic stress. The two somehow seem to be related.

One attempt to try and resolve the problem of stress is the proposition of mora accent. As I shall now describe, this proposition redefines pitch accent as a form of stress accent working within a syllable. If, as JAKOBSON (1971b) suggests, we contrast the Greek forms θῶς and θώς we see that they are two forms distinguished by a different type of accent-marking. The first has a circumflex, the second an acute indicating a rising-falling and a rising pitch respectively. If, as JAKOBSON, among others, proposes, we redefine the two words in the following way: θo′oς and θoo′ς, thereby splitting the vowel into two parts, we can show how the accent acts on different parts of the word just as with stress accent in other forms (e.g. *ímport* and *impórt*). Because of the ineluctable link which JAKOBSON sees between pitch and stress, his redefining the Greek accents in terms of the place in the syllable where stress is found to be intensified, allows him to re-analyse what had hitherto been known as musical accent in terms of accent based on amplitude modulation, dynamic stress. JAKOBSON splits the syllable into what he calls morae. One mora is defined as the length of a short vowel, thus the long vowels in the Greek examples above can be divided into two such morae. A stress on the first of these morae will automatically, due to the link between dynamic and musical accent, effect a rise in pitch and then a subsequent fall on the second mora, thus the definition of a circumflex accent as a rising-falling one, and that of an acute accent as a rising one with the accent on the last mora of the syllable. In extension those languages which display a falling-rising accent (e.g. Lithuanian) which is thus "zweigipflig" can be explained similarly with recourse to three morae: *CáaáC. The outcome of such a proposition as this is that, in terms of accent, stress and pitch are defined as, in fact, constituting the same thing. What we now have as a defining principle is the sphere of influence that an accent has, rather than physical, phonetic attributes of the accent type in terms of amplitude/frequency modulation. If the accent bears upon a whole syllable then we can call it stress accent or rather this type represents what we have called stress, if the accent is borne by just a part of a syllable and thus on a single mora of the syllable this represents what we have called pitch. As terms to differentiate between them one might propose syllable accent and mora accent (*Silbenakzent* and *Morenakzent*). A danger that ALLEN (1972, 92) observes is that the proposition of mora accent is in fact a fiction and only useful as an analytical tool. He refers to MARTINET (1954, 51) "who points out that the concept of mora (unlike that of vowel or syllable) does not correspond to a phonetic reality, but is a purely analytical device; there are languages in which the use of the mora facilitates a clear description of the phonology, and others in which it does not - but that is all" (ALLEN 1972, 92).[16]

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[16] An actual difference between pitch and stress is seen in the way that pitch can only be effective as an accent marker, in fact can only exist, on those segments in a syllable which are voiced and therefore have a large degree of sonority. Pitch cannot be effective on voiceless consonants, in contrast to stress which *can* be effective in such an environment.

We have seen, then, that a definition and explanation of ablaut in the terms of PROKOSCH (1939), that qualitative gradation is a result of pitch accent and quantitative gradation as a result of stress accent, is not tenable in such a simplistic and tidy way, because pitch and stress are not to be neatly compartmentalized into distinct categories. On the contrary, there is a significant overlap between the two. Some languages make little distinction between the two[17], whereas in others pitch plays a more important role than stress[18]. The description of pitch in terms of morae is useful, perhaps, from an analytical point of view but in effect the problem still remains. We still have two types of accent, but now they are different species of the same genus rather than being separate genera as PROKOSCH would have us believe. However, a theory such as JAKOBSON's appears to want to deny the existence of pitch accent without really incorporating it into anything else; for it still remains different from what was originally termed stress accent. 'Silbenakzent' is not the same as 'Morenakzent'. What the theory does do is unify the criteria used to define accent. The acoustic realizations of accent have perhaps been confused by the visual representations of them and this has led to too ready an acceptance of the notion of the opposition of dynamic and musical accent. This has meant that the effects and influence of accent per se on the word itself have become clouded in an approach that has been eager to categorize rather than investigate.

A compromise position might be to suggest that languages can be predominantly based on pitch or on stress accent, since it is evident that the modulation of pitch plays a much more important role in some languages than in others (e.g. Chinese). This means we can reject any theory which assumes pitch and stress accent to be at work in the language (i.e. proto-Indo-European) simultaneously, which is of course logically impossible. To get round this we can assume that there are two periods in Indo-European important in the history of its accentual system. In one of them stress accent was dominant and in the other pitch. Thus accordingly in the one period quantitative gradation would have developed and in the second qualitative gradation.

This periodizational approach to the problem of ablaut and its different manifestations is one which Herman HIRT (1921-1937) introduces in his *Indogermanische Grammatik*, criticizing his forerunners for sticking to a proto-Indo-European devoid of any changes. It is folly to presume that the assumed mother language of the group, proto-Indo-European, does not undergo language change in the same way as its daughters do and indeed as they show by their very existence. Proto-Indo-European is not a static entity but is itself subject to the changes languages inextricably undergo. That PIE is abstract and artificial means that we must be very careful in our reconstructions of the changes which we propose occur in it. but

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17 English, for example, only actively utilizes pitch change as grammatical function-carrier in sentence intonation. Questions for example are distinguished by the use of final rising pitch.
18 For example in the tonal languages of the Far East, especially China.

it must not stop us making these propositions. If we want to give PIE any kind of credibility then we must treat it as one treats a living language. The reconstructions scholars propose for PIE can be taken or left according to one's own opinions, but these scholars must bear in mind the observed pattern and behaviour of language change in their propositions.

We have now discussed the phonetic nature of accent and the role played by stress and pitch in producing it. Before talking exactly of the origins of each of the ablaut grades, it would be appropriate at this stage to devote some time to a consideration of the IE accentual system as we see it in the languages under investigation in this work: Sanskrit and Greek. Although this may or may not represent an accurate picture of proto-Indo-European accent it will provide a springboard, a set of more or less stable data, from which the theories in explanation of the various ablaut grades can be tackled.

2.2.1 The Indo-European Accentual System as seen in Sanskrit and Greek

> It is quite likely that in Indo-European [...] the preponderance of the two aspects of accent [(stress and pitch)] varied chronologically, perhaps also geographically. (PROKOSCH 1939, 118)

The exact nature of the accentual system in Indo-European is difficult to pin down because the constituent languages of the group have such varying accentual patterns that trying to find something common to all of them is impossible.

> Reconstruction of the accent system in Indo-European remains one of the most difficult phonological problems because the branches have shifted to a variety of systems. (LEHMANN 1993, 59)

If we look at evidence from the earlier languages we can find corroboration in certain features in the later languages which support the proposition of a particular pattern. We know from the ancient Indian Grammarians that Sanskrit had an accentual system that gave a prominent role to pitch.[19] The accented syllable in a word was that with the highest pitch. The Indian Grammarians speak of an accented syllable as *udātta* "raised" with the following syllable being termed *svarita* "ringing", which represents a falling tone. The syllable preceding *udātta* was pronounced lower than the other syllables in the word and was termed *sannatara*. All other syllables in the word are denoted *anudātta* "not raised". In early Sanskrit the accent can be borne by any syllable in the word; the accent is free. It is assumed that Sanskrit bears the closest relationship to the situation in late Indo-European.[20] In Greek,

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19 Cf. WHITNEY 1971, xii-xiii & 28ff.

20 Only the very early texts of the Veda preserve the original accentual patterning, "Es ist interessant, daß im nachvedischen Indisch der Akzent sich so wie im Latein entwickelt hat: der neue "dynamische" Akzent wird durch ein Viersilbengesetz geregelt, d.h., er fällt auf die vorletzte Silbe, wenn sie lang ist,

on the other hand, the situation is a little cloudier. Accent is relatively free but only on the last three syllables of a word. In addition in the orthography of Greek three accentual variants are denoted[21] : Acute (á), Circumflex (â) and Grave (à). Grave only occurs on the last syllable of a word and represents an acute accent that does not appear at the end of a sentence, in this way the grave has either been neutralized and the grave is merely a mark of where the acute would have been, or, as ALLEN (1966, 9) maintains, it is then merely lower in pitch than a normal acute accent. The acute accent can fall on any of the final three syllables. It can only rest on the antepenult if the last syllable is short. The circumflex appears on either of the last two syllables: on the penult if it is long and the last syllable is short by nature, and it may be found on the last syllable if it is long.

In addition to the orthographical evidence provided by the two languages so far mentioned in this section, we can draw upon evidence form the Germanic languages to support the claim of a free accent in PIE. The phenomenon known as VERNER's Law points towards an accent in Germanic which was not bound to any specific syllable rather than fixed on the first syllable which is the case in the dialects of Germanic. VERNER's Law, or perhaps rather less provocatively for modern linguists, grammatical change, affects consonants, and takes the form:

/f,θ,x,s/ ⇒/v,ð,ɣ,z/ -\V-V́

(i.e. unvoiced fricative consonants become voiced intervocalically when followed by a stressed syllable)

This change is seen in evidence from the Germanic verbal system. The OHG verb *ziohan* "pull" appears as *zôh* for the 1st and 3rd person singular but forms with /g/ appear elsewhere, e.g. *zugi* 2nd sing. *zugun* 3rd plu. and *gizogan* for the past participle. The *h* of OHG represents the phoneme /x/ and the *g* is the reflex of the voiced fricative /ɣ/. Similar alternations are seen in the verbs *snīdan* (*gisnitan*), *kiosan* (*gikoran*), etc.[22] This goes to show that the Germanic system, at its early stage, followed the IE system of movable stress, as evidenced by the forms above from Sanskrit. If we compare these Germanic strong verb forms that have grammatical change and similar forms from the Sanskrit perfect tense, then we can see how the Germanic forms reflect the Sanskrit accent patterning.

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auf die drittletzte, wenn sie kurz ist, und auf die viertletzte, wenn auch die dritte kurz ist; in einigen Fällen wird aber auch die letzte Silbe betont." (SZEMERÉNYI 1990, 79)

[21] However, this in itself is problematic, because the date at which accentuation began to be marked in Greek texts is later than the actual composition date of the earliest texts which we possess. "Accentual patterns were recorded only from the third century BC, when it became difficult to remember the accentuation of Homeric and other texts." (LEHMANN 1993, 113)

[22] Ger. /d/ < IE /θ/, Ger. /t/ < IE /ð/, Ger. /r/ here < IE /z/ . The development of sibilants to /r/ is relatively common and can also be seen in Latin and Greek for example, *flos* "flower" gen. *floris* < **flosis*; in Greek this rhotacism is seen in some dialects, cf. SMYTH (1956, §132).

Skt.		Gmc.	
vártati	"I turn"	*werþið*	"becomes"
vavárta	"I have turned"	*warþ*	"became" Sing.
vavrtimá	"we have turned"	*wurðum*	"became" Pl.
vartâná-	"turned" PP	*wurðan-*	"become" PP

As regards position of stress therefore, we can see that in the earliest Germanic, deduced with the help of the evidence of VERNER's Law, a situation prevailed that reflects, at least to some extent, what we have been able to say about the accentual systems of Sanskrit and Greek. Although all the languages under discussion here have, in their own historical development, moved to an accentual pattern which is fixed or which is determined according to syllable length, the evidence and trends investigated point to a situation in late Indo-European in which accent was free, and which was predominantly exhibited through a change in pitch. Evidence for the pitch quality of the late Indo-European accentual system might be seen in the fact that the metre of both Greek and Sanskrit verse depends on the length of a syllable and not on the position of the accent, as is, for instance, the case in Modern English verse which marks metre predominantly through stress accent.

2.2.2 Quantitative Gradation (Abstufung)

2.2.2.1 Zero Grade and Reduced Grade

From the examples of ablaut that have been given earlier in this chapter (**2.1**) it has been seen that the cases of quantitative gradation in which the vowel is reduced seem most clearly and evidently to be linked to accent. If we look again at the verbum substantivum in Sanskrit, this link will be manifestly clear: *ásmi*, *ási*, *ásti*, *smás*, *sthá*, *sánti*. The first three forms represent the three persons singular and the second three forms, the three persons plural. The singular forms all have the accent on the first syllable, the second syllable representing the ending identifying the person and number of the form. These first three forms all begin with the vowel /a/. When one compares the forms of the verb "be" form other IE languages one can deduce that the etymon for "be" is **es*-, that is the IE root. This being the case, and knowing as we do that the IE vowels /a,e,o/ are represented in Sanskrit by /a/ alone (that is the three vowels coalesce in Sanskrit), we can see that the first syllable of the first three forms is the root of the Sanskrit verb "be". If we then compare the first three forms with the second three forms we see that this root element is missing in the second three forms. What we would expect are the forms **asmas*, **astha* and **asanti*, which would exhibit the full root element √*as*. This we do not have. What we do see, if we compare these expected forms with the actual forms, is interesting: **asmas*/*smás*, **astha*/*sthá*, **asanti*/*sánti*. What we see is that the syllable which immediately follows the missing root-vowel is accented, in contrast to the three singular forms in which the root-vowel was accented. In contrast to the root accent of the singular forms the plural forms here exhibit suffix accent: the personal

endings bear the accent. It seems fairly clear that the position of the accent has something to do with the shape these forms take. The differences between singular and plural forms are consistent and commensurate with the differences in the placement of the accent. It is therefore acceptable and understandable to link the absence of the root vowel to the position of the accent on the suffix. Assuming that accent on the root is more likely to be the original pattern in early Indo-European, then the move of accent to the suffix provides the grounds for the lack of root-vowel in the plural forms, and we can say that reduction of a vowel is a result of accent shift from that vowel to elsewhere in the word, in this case to the suffix. But there are other examples from various of the IE languages which show that reduced grade does not only occur when accent moves towards the end of the word and thus to the suffix. It can also be moved towards the beginning of a word as a prefix is attached to the root. So for example the Greek words γόνυ "knee", in which the accent is borne on the first syllable (the root syllable), and the word πρόχνυ (from προ + γόνυ) "kneeling, on one's knees", where the accent has moved to the first syllable of the word representing a prefixed preposition/adverb, so that the root syllable is denied its accent and is weakened and reduced to zero. As was mentioned earlier, in addition to this reduction to zero of a full-grade short vowel, there also exists what appears to be a reduction from long vowels to a succession of short vowels. The classic examples of this type are the IE roots **dhē-*, **stā-* and **dō-*, "do", "stand" and "give" respectively. In the daughter languages they are represented, for example, by Greek τίθημι, ἵσταμι and δίδωμι[23] , Sanskrit *dadhami*, *stha-* and *dadami*, Latin *feci*, *stare* and *donum*, in their full grade forms, that is with long vowels. What here appear to be roots with long vowels, in other forms exhibit short vowels. Here are examples from the passive participles of the roots in question:

Sanskrit	Greek	Latin
hita	θετός	*factus*
sthita	στατός	*status*
(datta)[24]	δοτός	*datus*

Although the forms in each of the rows in the above table are cognate and represent comparable parts of speech in the respective languages, they nevertheless exhibit different vowels in their full-grade forms.[25] However, the short vowels appear confusing at first glance. Certainly in the Greek and Sanskrit participles the position of accent is located on the final syllable; for Latin we might assume that the accent was also originally on the final syllable. The position of accent on the final syllable mirrors the situation we saw for the

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23 Interestingly all reduplicated present forms. See section **E1.2.3.2.1**.

24 This form is added for the sake of completeness. According to WHITNEY (1971, 342, §955f) it derives from the reduplicated root √*dad* (cf. present tense forms); WHITNEY (1988) also lists a compound passive participle form *-dita* which fits more neatly into the discussion in hand here, but which is a form that develops at a later stage in the language.

25 Although one must take into consideration the fact that the long vowels /ā,ē,ō/ fall together in Sanskrit to the single /ā/, so that Skt. /ā/ can represent any of Greek and Latin /ā,ē,ō/.

reduction of short vowels. It seems that the long vowels of the root have, in these participles, been reduced as a result of the movement of stress to the final syllable. And yet what we would perhaps be happier to find as a result is the situation as we find it in Greek, where each of the long vowels appears to have been shortened merely to the corresponding short vowel. However, the evidence above from Sanskrit and Latin seems to deny this. In Sanskrit we find /i/ and in Latin /a/. If we assume that Greek represents the true development and the other two languages here show later developments, then we must account for the fact that Latin and Sanskrit have levelled to one vowel, without affecting the other vowels in the inventory. In the case of Sanskrit this means accounting for the fact that the /i/ which appears in these participles does not belong to the late IE stock of vowels. As will become clear later in the present work /i,u/ do not function as vowels in proto-Indo-European, but are glides or semi-vowels. They only function as vowels when a preceding full vowel is lost through reduction (e.g. **leik^{w}-*, **lik^{w}-*; Gk. λείπω, ἔλιπον). One way around this is to suggest that the reduced element of a long vowel is not merely its short counterpart but something else. For this reason it was proposed that the result of the reduction of a long vowel was schwa, /«/ (in German often called the Murmelvokal), which is a vowel of indeterminate quality akin to the second syllable in English *butter*. It was then suggested that schwa developed in each of the IE dialects in different ways: in Greek the schwa retained some of the quality of the original long vowels, so that the three short vowels appear in the reduced grade; in Latin and Sanskrit the schwa developed to /a/ and /i/ respectively. There is, however, a further explanation of these long vowels and their ablaut alternations, namely the laryngeal theory.

2.2.2.1.1 Laryngeals in an Explanation of Reduced Grade Long Vowels

In 1879 Ferdinand de SAUSSURE published an important monograph entitled *Mémoire sur le système primitif des voyelles dans les langues indo-européennes*. In it he proposed that early Indo-European had but one quality of full vowel, /a/; and that all the other vowels were derived from it from the action of other sounds on it. These other sounds belonged to a group which he labelled "coefficients sonantiques", which were sounds which, on the one hand, were consonants, but on the other, could also act as vowels if in an environment where they alone could bear the syllable. Saussure splits /a/ into two: a_1 and a_2. In a comparison with the later languages, to be exact with Greek and Latin, a_1 corresponds to /e/ and a_2 to the deflected grade /o/ ("Dans de certaines conditions qui ne sont pas connues, a_1 est remplacé par a_2; dans d'autres, mieux connues, il est expulsé", SAUSSURE 1879, 135; which reflects neatly our ablaut grades: full, deflected/o-grade and zero grade). Although modern historical linguists would propose /e/ as the single original IE vowel, SAUSSURE's proposal does seem to have been borne out to a certain degree by work carried out at the beginning of the

twentieth century. Most important in this was the discovery of Hittite in the twenties.[26] SAUSSURE's postulation of two coefficients sonantiques, which he called A and O, seemed to acquire a degree of truth with the evidence that could be extracted from these newly discovered Hittite texts. In those places in Indo-European where SAUSSURE had suggested these two coefficients might appear, in Hittite was found a sound which has come to be transliterated in the literature as *ḫ*. According to FRIEDRICH (1960, 32-33) "es ist mit der Möglichkeit zu rechnen, daß das heth. *ḫ* zwei verschiedene Laute bezeichnete". The first was something approaching a /k/ (although "weniger sicher belegt") and the second a "häufig (belegt[er]) schwach artikuliert[er Laut] (vielleicht einfach[er] Kehlkopfverschluß)". Following his description of the quality of this sound, Friedrich gives a footnote in which he refers to the "an dieses *ḫ* anknüpfende Laryngaltheorie". This laryngeal theory is what has developed out of SAUSSURE's original proposal, a theory which, following the work of KURYŁOWICZ (especially 1927), has gained supporters, some perhaps fanatical,[27] and has become generally accepted as, at the very least, a plausible possibility. Let us consider what the Hittite evidence shows us and then the relevance to the present argument concerning the reduced grade of long vowels. Although he seems somewhat sceptical of the importance of laryngeals[28], I shall bear upon SZEMERÉNYI's (1990) discussion of the laryngeal theory in the following explanation. Much of the premise of the whole theory relies on a drive to neaten the IE phonological system. It can be seen that by far the majority of IE roots have the vowel /e/ as syllable-bearer (this corresponds to SAUSSURE's a_1). It would then seem acceptable to suggest that all IE roots originally had the same shape and that therefore they all had the same vowel (/e/), before later phonological developments caused the evolution of others. With this in mind SAUSSURE suggests his a_1 and a_2, the latter being the deflected grade of the former, and KURYŁOWICZ suggests /e/. What can then account for those roots which do not have /e/? Taking up the idea of SAUSSURE's A and O, Kuryłowicz likewise suggests sounds which affect the vowels around them but which themselves have since disappeared. The sounds, laryngeals (labelled here H_1, H_2, etc.), could have the following effect:

$H_1e = /e/$	$H_2e = /a/$	$H_3e = /o/$
$eH_1 = /\bar{e}/$	$eH_2 = /\bar{a}/$	$eH_3 = /\bar{o}/$

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[26] Excavations in Bogazköy from 1906-1909 produced tablets with cuneiform texts, which long remained unidentified but were finally accepted as Indo-European in the 1920s and called Hittite.

[27] TISCHLER (1980, 496) notes this laryngeal over-enthusiasm and calls the growing laryngeal-hypothesizing a "geradezu epidemisch[es] Anwachsen solch alles erklärender Laute" which he believes has led to "einer dauerhaften Diskreditierung der Laryngaltheorie". He notes that some scholars, he cites PUHVEL (1965) and LINDEMAN (1970), have postulated as many as six laryngeals!

[28] "Die These der Laryngaltheorie, daß es nur einen Vokal gegeben habe, muß auch aus allgemeinen Gründen abgelehnt werden. Denn bisher ist keine Sprache gefunden worden, die nur einen Vokal hätte [...] Es dürfte jedoch als Axiom gelten, daß das Indogermanische nicht Eigenschaften gehabt haben kann, die in keiner Sprache der Erde vorkommen. (SZEMERÉNYI 1990, §6.8, 145)

H_1 has no effect on a following /e/ but lengthens a preceding one, H_2 colours the vowel to /a,ā/ and H_3 colours the vowel to /o,ō/. IE roots such as **ed*- "eat", **ag*- "lead", **od*- "smell", **dhē*- "do", **stā*- "stand" and **dō*- "give" could now be represented by the following in terms of laryngeals and retaining a single uniform original root vocalism: **H*$_1$*ed*-, **H*$_2$*eg*-, **H*$_3$*ed*-, **dheH*$_1$-, **steH*$_2$- and **deH*$_3$-. At this level this all seems rather academic and abstract, it is after all merely a re-representation in different form of the same information and in a way which appears to have some foundation. However, with the discovery of Hittite it seemed that there was at last some evidence to suggest that the hypothesis of these laryngeals was not quite as abstract as at first thought. In the Hittite texts were found the following forms: *eszi*, *hanti*, *hastai* meaning, respectively, "is", "forwards", "bone". These have correspondences in, for example, Greek: ἐστί, ἀντί, ὀστέον. The appearance of /h/ in the Hittite forms in exactly the position where laryngeals would have been proposed seemed to provide the evidence needed for laryngealists. However, the problem was not as simple as that, because in other cases where laryngeals were assumed, Hittite failed to provide the necessary confirmation. For example the Hittite equivalents of Lat. *os* "mouth", Lat. *aqua* "water" and Greek ἀπό "behind" are *ais*, *aku(wa)* and *appa*, none of which has the /h/ that, using the laryngeal theory, one would expect to account for the vocalism in the Latin and Greek forms. As a result of such apparent exceptions new laryngeals were proposed to fill the gap. Some of them left reflexes in Hittite and some did not, all to the cause of upholding the notion that proto-Indo-European possessed just one vowel.[29] Whether or not this is accurate or not is not necessarily pertinent to the current discussion except in so far as to provide an explanation of the reduced or zero grades in terms of possible laryngeal interference. The proposal that what we perceive as IE long vowels are in fact originally short vowels and a laryngeal is interesting for us in an evaluation of the reduced grade. If we rewrite the IE long vowel roots which we saw earlier in terms of laryngeals we will see what use to us laryngeals can be.

**dhē*-	⇒	**dheH*$_1$	(Gk. τίθημι)
**stā*-	⇒	**steH*$_2$	(Gk. ἵστημι, Lat. *stare*)
**dō*-	⇒	**deH*$_3$	(Gk. δίδωμι)

This having been done, it takes no great stretch of the imagination to work out what would happen in the situation of accent shift to a suffix, say, in these forms. As in the zero grade forms that we encountered in the previous section, so too here the full grade vowel would be lost leaving zero grade roots consisting of the consonantal onset and the laryngeal. SAUSSURE saw the "coefficients sonantiques" as possible syllable bearers when the original syllable-bearers had disappeared through reduction. In this way the root **peit*^{h}_ and its

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[29] LEHMANN (1955, 112; 1993,138) claims that at the earlieast stage of Indo-European there were no distinct vowels at all but merely a phoneme which he calls syllabicity.

reduced form *pit^h- (Gk. πείθω, ἔπιθον) correspond to *$dheH_1$- and the reduced form *dhH_1-. Thus the reduction of short vowels and the reduction of long vowels can be seen as, in effect, the same thing, merely skewed slightly through the effects of the laryngeals. Each of the three laryngeals (H_1, H_2, H_3) finds a different reflex in Greek; thus the different reduced vowels in the forms: θετός, στατός, δοτός. In Latin the laryngeal reflexes appear uniformly as /a/ and in Sanskrit as /i/, which itself develops as a full vowel from SAUSSURE's group of sonant co-efficients, /i,u,r,l,m,n/.

2.2.2.1.2 Reduction: Closing Remarks

In conclusion to the discussion of zero/reduced grade in the Indo-European we have seen that it appears as a result of a shift of accent from the root syllable of the form to another syllable elsewhere in the word. This can either be towards the end of the word and thus perhaps suffixal or towards the beginning of the word and thus prefixal. We have considered the degree to which various vowels are reduced as a result of this accent shift, in the case of the short vowels they are lost completely, and in the case of the so-called long vowels the reduction is only partial in that a vocalic vestige remains in the shape of schwa /ə/, or in terms of the laryngeals the result of reduction in the long vowels is the laryngeal itself which acts in the same way as the sonants /i,u,r,l,n,m/ in becoming syllabic when a preceding vowel is lost. This is the generally accepted view of the genesis of zero grade forms, irrespective of whether one is a laryngealist or not.[30]

It is time now to consider the other reflex of quantitative ablaut and investigate its genesis.

2.2.2.2 Lengthened Grade

That zero grade is a result of accentual shift seems without question; unaccented syllables are easily liable to loss. But how can the opposite effect, lengthening, be explained. Does it have anything to do with stress patterns? It might seem reasonable to assume that in the same way that unaccented syllables are lost, so those that still bear the stress are weighted perhaps more heavily and become lengthened. But in a system of stress accent there can only be syllables which bear the accent and those which do not: thus zero grade syllables and lengthened grade syllables. This system would, however, not allow for the retention of full grade syllables. This is clearly absurd. The available evidence speaks against it overwhelmingly.

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[30] However, a totally different view was proposed by BORGSTRÖM (1949), who suggested that originally all syllables were open and contained the vowel which he designated *ä*. By some process every second syllable from the end of a word was lost through reduction. Why this process should act in the way it does remains unidentified. In the case of **est* "is",for example, one could take it back to a form **häsätä* which by the process would become **hästä* and thus to**est*, but for **smes* (Skt. *smás* "we are" the process comes unstuck: **häsämäsä* > **sämsä* and thus **sems*.

Let us have some examples of the type of phenomenon lengthened grade is. In substantives it is found in the nominative singular of nouns whose stems end in consonants, for example in Greek πατήρ Skt. *pita* "father", Greek λέων "lion", δοτήρ "donor", ποιμήν "shepherd", contrasting with the accusative forms: πατέρα *pitaram*, λέοντα, δοτέρα, ποιμένα. In addition there are verbal forms in various languages which exhibit lengthened grade: Lat. *veniō* - *vēni* "I come - came", *emō* - *ēmi* "I buy - bought", Skt. *ni* - *ánāisam* "lead - I led", *kr* - *ákārsam* "do - I did". It is clear that the reasons for the lengthening are not at all as evident as those for the appearance of the zero grade. In these examples sometimes the lengthened syllable bears the stress, in the nouns and in the Latin perfect tense forms, but in the Sanskrit examples it is the augment that is here stressed. The augment seems to be a later addition to Indo-European and is explained as a "prefixed adverb"[31] ; it therefore follows that the position of the accent on the augment must be a subsequent development, and we can assume original root stress for these forms.[32] That the forms all originally bore the main stress in the word might be a factor in considering the genesis of the lengthened grade.

There have been scholars who have ascribed the appearance of lengthened grade to what SZEMERÉNYI (1990, 119) calls "*lautsymbolischer* oder *expressiv-rhythmischer* Natur"[33] . This suggests that the reason for lengthening is emphasis, but emphasis through expression and not the kind of emphasis that mere syllable stress represents. As LOEWE (1918, 49) writes:

> Die idg. Dehnung war meist lautsymbolischer, speziell dynamischer Natur, indem die Intensität der Vorstellung durch Längung des Vokals wiedergegeben wurde.

In the language of affectation, often used in popular fiction and children's books and comics and also used in spoken language for effect, such a use of emotive and expressive lengthening is well-known and widespread, but that it was raised to the level of a morpheme and systematized into an ablaut system which, as we shall see later in the case of the

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31 So LEHMANN (1993, 181), who ascribes to the augment the role of solidifying the tense system out of an earlier system based on aspectual differences.

32 "Daß das Augment ein selbständiges Wort, wohl ein Adverb, war, geht u.a. daraus hervor, daß es den Akzent trägt und somit das Verb wie ein Enklitikon behandelt wird; seine Bedeutung war etwa 'wirklich' oder 'früher, einmal' oder lokales 'da' oder beides zusammen 'illic et tunc'" SZEMERÉNYI (1990, 322), where there is also bibliographical information for the nature of the augment.
A look at the Sanskrit injunctive also provides evidence for the original positioning of the stress. The injunctive, in form, is like an unaugmented imperfect or aorist; its use encompasses the expression of future tense, imperativity and the expression of a wish. From the early language the injunctive begins to die out except in the construction of a prohibition (i.e. a negative command) with the particle *má* which reflects the OHG construction with *ni* (e.g. *ni kuri* ≈ Lat. *noli* + Inf.). Some of its forms are taken into the imperative mood, with or without modifications. As an unaugmented mood/tense its stress fell on the root in contrast to the otherwise identical augmented root aorist which bore the stress, as we have seen, on the augmented syllable.

33 SZEMERÉNYI's own italics.

Germanic languages, did indeed become regimented to a quite high level, is unlikely.[34] The true genesis of the lengthened grade is, I think, to be found elsewhere.

One of the earliest attempts at an explanation of the lengthened grade in terms other than purely emphasis or affectation was given by STREITBERG (1894) in the nineteenth century.[35] His conclusions take the following form (1894, 413f.):

> Die Erklärung der Dehnstufe ist auf folgende Weise gelungen:
> 1. Gestützt auf die Theorien Möllers und Ficks[36] sowie auf die Beobachtung moderner Dialekterscheinungen haben Michels, Johansson und Bechtel vermutet, dass ein kurzer Vokal gedehnt wird, wenn dahinter eine Silbe geschwunden ist.
> 2. Die Hypothese näher präzisierend hat dann Michels die Bedingung aufgestellt, dass der kurze Vokal, der gedehnt werden soll, den Wortton tragen muss.
> 3. Da auch hierdurch das Dehnungsgebiet noch nicht genügend eingeengt wird, hab ich die weitre Bedingung hinzufügen müssen, dass die Dehnung nur bei einem betonten kurzen Vokal eintreten kann, der in offener Silbe steht. Mit andern Worten, dass nur betonte kurze Silben dehnungsfähig sind.

An example of the effect of this theory (cf. SZEMERÉNYI 1990, 118) can be seen in **pəter* which is assumed to derive from **pətéro*, a change which causes the loss of a syllable, in contrast to the accusative form **pəterom* which becomes **pətermˌ* with syllabic /m/, where there is no loss of syllable, and so no lengthening. The theory shows compensatory lengthening whereby a lost syllable is vestigially retained in the Dehnung of the preceding syllable. Objections to the theory include the fact that it does not permit the primitive language to have monosyllables with lengthened grade; these must all have derived from original polysyllables which lost a syllable so causing compensatory lengthening of the preceding syllable. SZEMERÉNYI (1990, 119) also notes the objection that the occurrence of lengthened grade in athematic verbs is to be explained by the fact that the athematic verbs are derived from original thematic verbs. This would, in effect, mean that all athematic verbs would have to have lengthening in the root syllable; the evidence speaks

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34 "Man neigt wieder mehr zu der Annahme expressiver affektischer oder symbolischer oder rhythmischer Dehnung, ohne sich über die Grenzen einer derartigen Möglichkeit genauere Gedanken zu machen" LEUMANN (1952, 2). LEUMANN details the Old Indic practice called Pluti, whereby in questions and apostrophe the final syllable of a word is affectedly lengthened to three mora. LEUMANN suggests this might be the answer in an explanation of the cases of lengthened grade in nominal classes such as that for Gk. πατήρ; but "eine lautliche Erklärung der Dehnstufe als Ablauterscheinung vermag [er] nicht zu geben" (*ibid.*, 16); thus a phonetic interpretation but no morphological one for the extended use of the lengthened grade in the morphology, especially in the verbal system.

35 Although his work takes on board and modifies the position of MÖLLER (1880b) and FICK (1881) among others.

36 FICK (1881, 1453): "Es ist überhaupt der Satz aufzustellen, daß die idg. Sprache ursprünglich keine auf nackte Consonanten schließende Wörter kannte; *patê'r* ist erst aus *patérĕ* entstanden, welche Form noch ganz deutlich in πατέρα erscheint, indem dies gar nicht aus *patérn* oder *patê'rn* erklärt werden kann, sondern nothwendig auf *patérĕn* zurückgeführt werden muß."

overwhelmingly against this. Indeed a proposal such as STREITBERG's would undermine the received notion that the athematic verbs are, in fact, the most primitive of all the verb stems and that the thematic verbs are newer additions to the language. It is the thematic classes which are productive in the later stages of the IE languages, the athematic classes being remnants of the beginnings of IE.

Taking a different position, the Pole, KURYŁOWICZ (1956; 1968, 2, 298-307), rejects a phonetic description of the changes causing lengthening in favour of one which treats Dehnung as a consequence of morphological ambiguities. The technicalities of the argument are based on the need for morphological differentiation between forms which would otherwise produce misunderstandings. Whatever the details of his theory, the approach was nevertheless a new one in eschewing the earlier necessity for a phonetic explanation. A phonetic description makes Dehnstufe the result of a cause, to make the description morphological is to turn Dehnstufe into a reason in itself. It is necessary for clarity and therefore it happens. Of course, changes like this are not particularly common in any language, especially as ambiguities are much more likely to be overcome by an examination of the context, rather than by a purposeful and deliberate alteration of the ambiguous forms in question.

LEUMANN (1952) explained the existence of Dehnstufe in forms other than the nominative singular of, for example, the nasal/liquid-stem nouns as coming from monosyllabic related words with Dehnung in the nominative singular. This then merely re-sites the root of the problem as, in essence, the history and origin of the lengthened nominative of the type Gk. δοτήρ.

> "Funktionell ist es nun klar, daß einmal alle belebten Stämme durch *-s* charakterisiert sein mußten." (SZEMERÉNYI 1990, 121)

Those forms that it would seem do not have *-s* must then at some point in the history of IE have had a termination ending in *-s* and have since that point undergone Ersatzdehnung. For example:

-ers > *-ēr*; *-ors* > *-ōr*; *-ons* > *-ōn*, etc.

SZEMERÉNYI places alongside these stems ending in nasals and liquids stems which end in *-s* but that show lengthening as well. Comparing these to the others he derives *-ēs* from *-es-s* and *-ōs* from *-os-s*. From this point he then proposes that the change *-ers* > *-ēr* must have gone through an intermediate assimilatory phase of *-er-r*, "... so daß kurzer Vokal + langer Konsonant in die Folge langer Vokal + kurzer Konsonant verwandelt wurde" (*ibid.*). So we have an explanation for some of the instances of lengthening, but can this theory be applied by extension to the other cases of lengthening, such as that evidenced in verbal formations?

Up to this point the theory has only been used on the last syllable of words with 'Dehnung', although in verbs the 'Dehnung' occurs in the middle of the word. SZEMERÉNYI takes the example of the words for the numerals 20, 30, 40, etc. to show that 'Dehnung' can occur in the middle of a word and for the same reasons as for the nasal/liquid-stem nouns. Thus he posits: **wīkmt-* "20" from **wik-kmt-* < **wid-kmt-* and **k*^{w}*etwr̥̄komt-* "40" < **k*^{w}*etwrkkomt-* < **k*^{w}*etwrdkomt-*. As a result of this he is able to suggest the following development: 2nd sg. aor. **bher-s-s*[37] > **bhēr* which then had its ending restored > **bhēr-s(-s)*, and also 3rd sg. aor. **bher-s-t* > **bhēr* > **bhēr-s-t*. So in conclusion to this discussion of the Lengthened grade it would seem that it was caused by 'Ersatzdehnung' due to 'Doppelkonsonanz' immediately following, which itself occurs from assimilation of two consonants. This theory also relieves 'Dehnung' from an accent-based genesis like the 'Nullstufe', as we see in the proposal of STREITBERG, and gives it one based on the phonological environment. Not all quantitative gradation is a result of stress accent. The occurrence of lengthened grade cannot then be pinned down to a particular point in history as the 'Nullstufe' implicitly can, at least in relation to other changes.

> Da die Dehnstufe einfach eine Umwandlung der Vollstufe in gewissen Umgebungen darstellt, war ihre Entstehung zu jeder Zeit möglich. [...] Immerhin muß der Prozeß, insbesondere die Entfaltung der verschiedenen nominalen und verbalen Vrddhi-bildungen, lange Zeit in Anspruch genommen haben. (SZEMERÉNYI 1990, 124)

The stance of SZEMERÉNYI is upheld by LEHMANN (1993, 130), who concurs with the accepted explanation that lengthened grade "arose by compensatory lengthening".

2.2.3 Qualitative Gradation (Abtönung)

As we have seen, early approaches in the explanation of the different ablaut grades tried to ascribe the two types, Abstufung and Abtönung, to the two types of accent that had been observed in the Indo-European languages. There were also attempts to put qualitative ablaut down to the position of accent. If, for example, we look at the Greek forms δοτήρ "donor", δώτωρ "donor", ποιμήν "shepherd", δαίμων "god(dess)", we see that at first sight one might assume that the o-grade is found in syllables which do not bear the stress. HIRT (1900, 156) in fact takes this as being the case; that /o/ stems from /e/ "...wenn dieses den Gegenton bekam, d.h. wesentlich in der Komposition oder bei Akzentverschiebung". And because, as I have mentioned elsewhere, it was felt that dynamic accent could not effect qualitative gradation as well as quantitative gradation (Nullstufe), the culprit for Abtönung was seen in musical/pitch accent. However, as later scholars, among them KURYŁOWICZ (1956, 36-96), point out, there are enough Greek forms with o-grade vowels which also bear the main

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[37] The first *-s-* is the aorist tense theme, the second is the personal ending. The third person example follows in the same way.

accent, for this assumption by HIRT to be rejected as inadequate. With forms like these[38] : φόρος, φώρ, αἰδώς, ἠώς, γόνυ, any assumed connection with the position of the accent has to be re-examined, if not thrown out altogether. KURYŁOWICZ also shows that from the examples of later languages such as modern Russian dialects, experience shows that accent does not have any effect on the quality of a vowel. In the case of the Russian dialects it is the environment that the vowel finds itself in which is responsible for a change in quality.[39]

> L'expérience nous enseigne que tandis que la réduction et l'expulsion de voyelles sont en général étroitement liées à l'accentuation, les changements de timbre sont conditionnés d'abord par l'entourage phonétique, l'accent n'y jouant qu'un rôle tout au plus secondaire. (KURYŁOWICZ 1956, 37)

KURYŁOWICZ's own suggestion is that Abtönung took place before the results of zero-grade reduction, so that an original /e/ or /o/ before a resonant was weakened but not lost altogether. The two weak forms $_{e}R$ and $_{o}R$ then fell together as $_{o}R$. This short /$_{o}$/ was felt as belonging to the full vowel /o/ despite a split derivation from both IE /e/ and /o/, so that for example the opposition of *e/o* in singular and plural of the perfect can be established (the weakening of *eR/oR* to $_{e}R/_{o}R$ must, however, be due to the desinential accent in the plural of the perfect as opposed to the root accent of the singular).

MAŃCZAK (1979), another Pole, attacks this proposal of KURYŁOWICZ by rejecting the notion that full grade forms should have developed from weak forms, which would echo the early Indian grammarians and their assumption that the guna-grade (our full grade) is a derivation of the reduced grade which they termed the basic or normal grade. MAŃCZAK also finds the development of both $_{e}R$ and $_{o}R$ hard to swallow; it is otherwise not found. He suggests a split, two-part development for Abtönung:

> A notre avis, les deux règles suivantes expliquent l'origine de l'apophonie *e/o:*
> I. D'abord, **e* devient *o* devant voyelle postérieure (**a*, **o*, **u*)
> II. Ensuite, le **e* posttonique aboutit à *o* devant nasale ou liquide.
> (MAŃCZAK 1979, 530)

Examples for these two rules are provided thus:

> ...la présence d'une voyelle postérieure explique la différence entre φέρειν, τέμνειν et φόρος, τομή. (ibid., 531)
>
> Le vocalisme *o* apparaît dans les formes [...] λέγομεν, λέγομαι, λέγομεθα [...] Par contre le *e* posttonique [...] se conserve tel quel: λέγεις, λέγει, λέγετε. (ibid., 530)

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38 Taken from SZEMERÉNYI (1990, 125).

39 "[En polonais] *o* (< *e* slave) devant consonne dentale dure, *e* dans les autres positions; en russe *o* < *e* devant consonne dure ou à la fin de mot mais uniquement sous l'accent (facteur *accessoire*)" (KURYŁOWICZ 1956, 38, Fn. 6).

MAŃCZAK nevertheless realizes

> "que ces règles souffrent des exceptions, mais il ne faut pas se donner l'illusion de jamais arriver à trouver une formule qui explique tout, et cela pour la simple raison que l'évolution linguistique, aussi bien de nos jours qu'à l'époque préhistorique, est toujours une résultante de changements phonétiques réguliers, de changements phonétiques irréguliers [...] et de changements analogiques" (1960, 287).

He prides himself with the fact that he believes he has managed to explain more forms with fewer reconstructed forms than his predecessors (*ibid.*); and this is indeed something. However, it remains clear that the problems raised by the deflected *o*-grade have yet to be fully elucidated and explained. It is also clear that to make accent the full cause of Abtönung will fail on the grounds of the overwhelming evidence that can be mustered to prove the opposite. In fact, the rejection of accent as the root of Abtönung was made almost one hundred years ago by Baudouin de COURTENAY (1894, 54):

> Alle mir bekannten Versuche halte ich für ungenügend. Insbesondere ist dabei an einen Einfluss der Betonung, welcher von einigen Gelehrten vermutet wurde, gar nicht zu denken, und zwar deswegen, weil man sonst, in den uns historisch zugänglichen Perioden des Sprachlebens von einem *solchen* Einflusse gar nichts weiss.

One could raise the question of the Slav change mentioned earlier whereby an /e/ becomes /o/ under accent, but, as has been shown[40] , this is due to environment and not position of accent.

LEHMANN (1993, 131) has a different opinion, in that he does ascribe the effects of the change to deflected grade as a result of accent shift. He explains it as "the loss of primary accent on a vowel and replacement by a secondary accent". This view in effect is exactly the same as that voiced by HIRT in his *Indogermanische Grammatik* (1921-1937, IV, 353):

> [Es] können auch vollbetonte *e*'s ihren Vollton verlieren und einen Gegenton erhalten. In diesem Fall tritt aber keine Schwächung ein, sondern das *e* wandelt sich in *o* und $\bar{e}$ in $\bar{o}$.

As an example we could borrow LEHMANN's (1993, 131) of the Greek verb νήμω "I pasture" and the derived forms νομός and νομεύς which have the accent on the suffix and which consequently, in the eyes of LEHMANN and HIRT, have Abtönung. Just as in our discussion of the Lengthened Grade, so too here we have seen that Abtönung has provided many problems in attempts to define and explain it. As a result there are many conflicting theories which lay importance on different aspects of the phonology of proto-Indo-European. Let us see what significance the theories have on the chronology of the ablaut changes.

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[40] Footnote 39.

2.2.4 Notes on the Periodization of the Ablaut Grades

It seems then that in the later handbooks on the subject of Indo-European (SZEMERÉNYI 1990 and LEHMANN 1993) we see explanations for *o*-grade from different perspectives. SZEMERÉNYI (1990, 127) concludes his treatment of Abtönung with some observations: firstly that accent cannot be a reason for Abtönung; secondly that there were various processes at work, of which the environment of a word was particularly significant. And on the other hand LEHMANN (1993, 131) has the accent-controlled explanation of HIRT. What we can say at this point is that the two different perspectives necessarily call for two different periodizations. LEHMANN has to posit Abtönung occurring later than reduction and in circumstances where the quality of accent has altered. Both Abtönung and reduction are as a result of accent shift, but in the case of Abtönung this did not lead to reduction, therefore reduction must, by the time of Abtönung, have ceased to function. SZEMERÉNYI, on the other hand, is not confined by this necessity and can therefore say that there is no reason to assume, "daß die Abtönung nach der Nullstufenperiode entstand" (1990, 127). In fact for SZEMERÉNYI, it seems that any attempt to periodize the ablaut grades is unnecessary, certainly from the point of view of the phonological development of the language and its relevance for the daughter languages. In talking of the lengthened grade he says as much (1990, 124):

> Da die Dehnstufe einfach eine Umwandlung der Vollstufe in gewissen Umgebungen darstellt, war ihre Entstehung zu jeder Zeit möglich. Eine relative Chronologie mit Bezug auf die Nullstufe ist deshalb nicht möglich. Immerhin muß der Prozeß, insbesondere die Entfaltung der verschiedenen nominalen und verbalen Vrddhibildungen, lange Zeit in Anspruch genommen haben.

So for SZEMERÉNYI (1990) the precise ordering of the grades is immaterial and indefinable, however, for LEHMANN (1993) they are conversely of paramount importance. He cannot posit his version of the occurrence of Abtönung without the proviso that the deflected grade happened long after the reduced/zero grade had ceased to operate. Because too the changes he notes under deflection also affected long vowels, he assumes that Abtönung took place after the development of lengthened grade vowels. LEHMANN's whole thesis concerning the development of the IE vowels is one which is based around the acceptance of the laryngeal hypothesis and also the theory of the single original IE vowel /e/. Beginning with these premises he cannot but order his changes and developments in the way that he does. Accordingly he puts lengthened grade after reduction and before deflection. If lengthened grade is a result of compensatory lengthening in the environment of lost syllables through reduction it has to occur after reduction. SZEMERÉNYI (1990,123), who believes the cause of lengthening to be as a result of geminate consonants lengthening the preceding vowel before becoming single consonants themselves (e.g. **ekk* > **ek*), does not have this constraint and

can do as he does and not pin lengthening down to a particular period. But the explanation of LEHMANN requires careful periodization of the developments.

Mine is here not to come down in favour of one explanation or the other. Neither is incontrovertible and both are equally plausible. What I have done is to detail the theories surrounding the genesis of ablaut in the IE mother language in an attempt to define ablaut more clearly. What will have been most noticeable is how ablaut changes have much to do with accent and its position in a word. Theories uphold the role of accent and theories condemn it but nevertheless accent is central to an understanding of the ablaut phenomenon.

It is now time to turn to the actual problem of the present work: the role of ablaut in the verbal system. Firstly (Chapter 3) I shall detail ablaut's use in Indo-European, taking Sanskrit and Greek as primary models but drawing on other Indo-European languages and branches where necessary. Secondly (Chapter 4) I shall do the same for each of the Germanic languages to build up a comprehensive picture of the ablaut patterning in the early Germanic dialects, before, in Chapter 5, examining the problems which will have been brought to light along the way.

3. The Nature and Systematization of Ablaut in the Indo-European Verbal Systems

3.0 Introduction

The task now is to set up a system for Indo-European; to show how ablaut was generally used in the Indo-European languages so that we can propose a tentative system for proto-Indo-European. This will be achieved through a comparison of the systems of Sanskrit and Greek in the first instance, but with some input of data from other languages and branches of the IE family. We will then have a firm basis of information and examples from which we can progress to an examination of the use of ablaut in one particular branch of Indo-European: Germanic.

3.1 Sanskrit

3.1.1 The Nature of Sanskrit Ablaut

To begin at the beginning we should examine the work of the early Indian grammarians to see what they thought and wrote on the matter of ablaut. They did, indeed, recognize a regular patterning of vowel alteration, but, as I shall describe, they misunderstood the relationships within this alternation and as a result found themselves in difficulty in a certain number of cases.

The Indian grammarians identified what they called a normal grade and from this derived two extended grades, which they called *guna* ("secondary grade") and *vrddhi* ("growth/ increment") respectively. Thus they saw /ar/ and /ār/ as two successive lengthenings of the syllabic sonant /r̥/, which as the starting point was left undescribed.[1] Following this principle a scheme such as the following can be constructed:

Simple Vowel	a/ā	i/ī	u/ū	r̥	l̥[2]
1st Lengthening	a/ā	e[3]	o	ar	al
2nd Lengthening	ā	āi	āu	ār	

As examples, we can take from the root √*bhr* "bear" the following forms: a past participle *bhrta* "borne" with the simple vowel of the root, a present tense *bharati* "he bears" with the guna grade vowel and a perfect tense *babhāra* "he bore" with the vrddhi grade. So the grammarians reconstructed a root form with the basic grade from which the extended forms could be built through the addition of /a/ and /ā/ for guna and vrddhi respectively.

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[1] Here the Sanskrit normal grade will be termed "basic grade" in order to avoid confusion with the IE normal grade (Full Grade) which, as we shall see, corresponds to the Sanskrit guna grade.

[2] "There is nowhere any occurrence of /r̥̄/ in a situation to undergo either guna or vrddhi change; nor does /l̥/ ever suffer change to vrddhi. Theoretically /r̥̄/ would have the same changes as /r̥/, and the vrddhi of /l̥/ would be /āl/." (WHITNEY 1971, 82).

[3] Before vowels often /ay/ for /e/; /āy/ for /āi/; /av/ for /o/; /āv/ for /āu/.

> Fundamentally this alternation *a/ā/zero* is all there is to the system of apophony [here = quantitative gradation]. Some complications are caused by the combinations of *a* with semi-vowels, etc., and by some phonetic changes. (BURROW 1955, 108)

Thus the series *i* ~ *e* ~ *āi* reflects *zero* + *i* ~ *a* + *i* ~ *ā* + *i*, and the series *u* ~ *o* ~ *āu* reflects *zero* + *u* ~ *a* + *u* ~ *ā* + *u*.

The difficulties which I mentioned above and which the Indian grammarians came up against, can be seen from an examination of the verb *svapati* "sleeps". If we compare this with the verbs *sravati* "flows" and *ghosati* "proclaims" and the corresponding past participles of the three verbs which, typically for Sanskrit, display what the Indian grammarians styled the basic grade: *supta* "slept", *sruta* "flowed" and *ghusta* "proclaimed", what we notice is that the change from present tense to past participle involves a loss of the vowel /a/ (*srav/sru*, *ghos/ghus*[4] , *svap/sup*). The problem, however, arises when we then try to go backwards, that is reconstruct the present tense from the basic grade participle by adding /a/. If we do this we would get **saupati* > **sopati* corresponding to *ghusta* - **ghausati* > *ghosati* and *sruta* - **srauati* > *sravati*. In order to explain this the Indian grammarians had to invent a special rule: samprasārana [= "vocalization (of the semi-vowel)"]. This difficulty provides an example of how the Indian system was incorrectly structured. By having two extended grades they forced themselves into the position in which they had to construct these grades from one basic grade form. The problem is that this perspective did not always allow a clear and visible progression.

How then might the system be re-interpreted to give a clearer description of the ablaut process? If we remember the Latin example *faciō - confectus - conficiō*, this was explained as a weakening of the full vowel /a/ as a result of the shift of accent from the root syllable to the initial syllable. It is this weakening, which we saw in section **2.2.2.1**, that the Indian grammarians did not recognize in their system. Consequently their system was too simplistic, based as it was around one feature: the progressive lengthening of syllables. They did not consider that the same syllable could be subject to the opposite phenomenon: weakening or reduction. It is in this respect that modern historical linguists have improved on the work of the early Indian codifiers. We now recognize the capacity of syllables to undergo both a process of strengthening and of weakening according to different phonological changes and their subsequent morphemicization into the morphological component of the grammar. And to that grade which the Indians called guna we give the name normal or full grade, vrddhi becomes our lengthened grade and the Indian basic grade is our reduced or zero grade.

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[4] *ghos* = **ghaus*.

Of course the examples given so far for Sanskrit represent only that type of ablaut which is an alternation of the quantity of the vowel in question. The vowels are lengthened or strengthened by the addition of /a/ and /ā/, as I have stated elsewhere, but they represent a change of quantity - a front vowel remains a front vowel and a back vowel stays a back vowel.

So what of qualitative gradation, 'Abtönung', in Sanskrit? Does it feature in the phonological structure of the language?

> Im Arischen fand ein Umsturz statt, indem die drei ... Vokale *a*, *e*, *o* alle in *a* zusammenfielen - entsprechend auch die Längen in *ā* - so daß ein Dreivokalsystem entstand. (SZEMERÉNYI 1990, 37)
>
> There existed in Indo-European also a qualitative alternation of the guna vowel ... In Indo-Iranian[5] this alternation has entirely disappeared owing to the confusion of the vowel qualities *a*, *e*, *o* in *a*. Consequently this Indo-European alternation has no significance for Sanskrit grammar... (BURROW 1955, 111)

As we saw in the previous chapter, the basis for 'Abtönung' is the alternation *e/o*; if both are confused into the vowel /a/ there is, then, in effect no qualitative gradation, as, on the other hand, there can be in the other IE languages which retained the distinction between /a/, /e/ and /o/. The vowels /i,u/ do not, at this early stage of the language wholly behave as vowels but rather in a similar way to the resonants /r,l/.

This has then explained, in a general way, the nature of the ablaut alternations found in Sanskrit, but how was it systematized in this language? What purpose did it serve, if any? Or was it still, as has already been described for the IE mother language, merely concomitant and grammatically (i.e. morphologically) insignificant?

3.1.2 Ablaut in the Sanskrit Verbal System

The ablaut relationships in the Sanskrit verbal system (the verbal system being that part of many of the IE languages which exhibits ablaut, to a greater or lesser degree of systematization) can be schematized as follows:[6]

---

[5] i.e. that branch of the IE family to which Sanskrit belongs.

[6] In discussing Sanskrit's use of ablaut the terms basic grade, guna and vrddhi stand for the terms here used in the wider IE context: reduced/zero, normal (full) and lengthened grades.

Present Tense System[7]

ATHEMATIC CONJUGATION: the Root and Reduplicating classes (2 & 3) have guna grade in the 1st, 2nd and 3rd persons singular indicative active in the present and imperfect tenses; elsewhere they have the basic grade. (e.g. √*dvis-* "hate", *dvésti* 3rd sg. *dvisánti* 3rd pl.; √*hu-* "sacrifice", *juhóti júhvati*)

The Nasal-infixing class (7) has the basic grade of the root in all forms, but the simple nasal infix *n* is increased to *ná-* in the strong forms (= 1st, 2nd and 3rd persons singular indicative/subjunctive present and imperfect active). (e.g. √*rudh* "obstruct", *runáddhi rundhánti*)

The nu-, u-suffix classes (5 & 8) have *no-*, *o-* respectively in the 1st, 2nd and 3rd persons singular of the present indicative active. The root itself is unchanged. (e.g. √*su-* "press out", *sunóti sunvánti*; √*tan-* "stretch", *tanóti tanvánti*)

The nā-suffix class has *nī* in all but the strong forms (1st, 2nd and 3rd sing.) of the present and imperfect active and in all of the subjunctive and imperative. (e.g. √*krī* - "buy", *krīnāti krīnánti*)

THEMATIC CONJUGATION: Radically accented class (1) has guna grade throughout the system. (e.g. √*bhū-* "be", *bhávati bhávanti*)

Suffixally accented class (6) and ya- and aya-suffix classes (4 & 10[8]) have the basic grade throughout. (e.g. √*vic-* "enter", *vicáti vicánti*; √*nah-* "bind", *nahyáti nahyánti*; √*cint-* "think", *cintáyati cintáyanti*)

---

[7] The present tense system comprises: present indicative, subjunctive, optative and imperative and a participle, and an imperfect. The ten present classes into which all Sanskrit verbs fall are:

1) Radically accented class (or *bhu*-class) [Thematic]
2) Root class (or *ad*-class)
3) Reduplicating class (or *hu*-class)
4) Ya-suffix class (or *div*-class) [Thematic]
5) Nu-suffix class (or *su*-class)
6) Suffixally accented class (or *tud*-class) [Thematic]
7) Nasal-infixing class (or *rudh*-class)
8) U-suffix class (or *tan*-class)
9) Nā-suffix class (or *krī*-class)
10) Aya-suffix class (or *cur*-class) [Thematic]

The names in parentheses are the designations used by the Indian grammarians and refer to one of the verbal roots typical for each class. For paradigms of these present classes consult Appendix **7.1**.

[8] Regarding class 10:

> The suffix is *áya-*. This has normally been specialised in the formation of causative verbs, but it is not exclusively used for this purpose, and a nucleus of forms remain which belong to the primary rather than the secondary conjugation. In the language of the Veda there is a fairly clear distinction between presents in *áya-* which do not have strengthening of the root (guna or vrddhi) in which a causative sense is usually absent, and those in which it is strengthened which are normally causative. (BURROW 1955, 330)

Perfect Tense System[9]

A final vowel of the root takes either guna or vrddhi in 1st pers. sing. act., guna in 2nd and vrddhi in 3rd. (e.g. √*nī*- "lead", *nināya ninyúh*; √*kr*- "do", *cakāra cakruh*)

A medial /a/ before a single consonant has guna or vrddhi in 3rd pers. and optionally too in the first; elsewhere it has the basic grade. (e.g. √*jan*- "give birth", *jajāna jajñúh*)[10]

A medial short vowel (other than /a/) has guna in all three persons singular and basic grade elsewhere. (e.g. √*drs*- "see", *dadárśa dadrsúh*)

The perfect participle has the basic grade. (e.g. √*budh*- "know", *bubudhvāns*)
The pluperfect follows the perfect.

Aorist Tense System[11]

Root aorist has guna grade. (e.g. √*bhū*- "be", *ábhūt ábhūvan*)

A-aorist has basic grade. (e.g. √*sic*- "pour", *ásicat ásican*)

Reduplicating aorist has basic grade. (e.g. √*jan*- "give birth", *ájījanat ájījanan*)

s-aorist - if root ends in a vowel then it has vrddhi in the active and guna in the middle. Roots with a medial vowel have vrddhi in the active and basic grade in the middle. (e.g. √*nī*- "lead", *ánāisīt* 3rd sg act. *ánesta* 3rd sg. mid.; √*chid*- "cut off", *ácchāitsīt ácchitta*)

is-/sis-aorists - if the root ends in a vowel then it has vrddhi in the active and guna in the middle. Roots with a medial /a/ sometimes have guna in the active but usually have basic grade in the active and middle. Roots with any other medial vowel have guna in both active and middle if they are capable of it. (e.g. √*pū*- "cleanse", *ápāvīt ápavista*; √*nam*- "bow", *ánamsīt ánamsista*; √*budh*- "wake", *ábodhīt ábhodhista*)

sa-aorist has basic grade throughout. (e.g. √*dic*- "point", *ádiksat adiksata*)

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[9] The perfect system of the period of the grammarians comprises an indicative tense only and a participle. "In the oldest language, the perfect has also its [moods] and its augment-preterit, or pluperfect..." (WHITNEY 1971, §780, 279) "...while Greek did eventually develop a pluperfect with a meaning of its own, the forms classified as such in Sanskrit are in the main isolated and unstable formations which appear in the Vedic language but are not used later." (BURROW, 1955, 344)

[10] There is a problem with verbs of the type CaC. Many of them show fusion of the reduplication affix with the root syllable (e.g. *tan*- "stretch", *tatāna tenúh* > **tatnúh*). Verbs of this type will be discussed later (section **5.2.3.2**) when they have significance for a discussion of the lengthened grade in classes 4 and 5 of the Germanic strong verb system.

[11] Sanskrit has three types of aorist: 1) A simple aorist (equivalent to the 2nd aorist of Greek, about which more later) with two varieties a) root-aorist, b) an a-aorist with a thematic /a/; 2) a reduplicating aorist (see section **E1.2.3.1.2**); 3) a sigmatic or sibilant aorist (corresponding to the 1st aorist of Greek) with 4 varieties a) s-aorist, b) is-aorist, c) sis-aorist, d) sa-aorist.

Future Tense System[12]

s-future has guna. (e.g. √*kr*- "do", *karisyáti* 3rd sg. act. *karisyánti* 3rd pl. act.)

Periphrastic future has guna also. (e.g. √*kr*- "do", *kartr*; √*bhū*- "be", *bhavitr*)

Passive Participle

Has basic grade. (e.g. √*dā*- "give", *dattá*; √*vac*- "speak", *uktá*)

Infinitive[13]

Has guna. (e.g. √*i*-"go", *étum*; *car*- "move", *cáritum*; √*kr*- "do", *kártum*)

We might illustrate all of this information in a slightly more useful and comprehensible way, as in the following table:

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[12] The future tense system comprises an s-future (with s-suffix) and a periphrastic future which "consists [of] a derivative nomen agentis, having the value of a future active participle, and used, either with or without an accompanying auxiliary, in the office of a verbal tense with future meaning" (WHITNEY 1971, §942b, 335).

[13] "The later language has only a single infinitive ..." (WHITNEY, §968, 347) "In the Veda and Brähmana ... a number of verbal nouns, nomina actionis, in various of their cases, are used in constructions which assimilate them to the infinitive of other languages." (WHITNEY, §969, 349)

Table 1: Sanskrit Ablaut Grades in the Verbal System

Skt. Basic Grade (= IE Reduced/Zero Grade)	**Skt. Guna** (= IE Full Grade)	**Skt. Vrddhi** (= IE Lengthened Grade)
	Class **1** present	
Class **2** present (weak forms[14])	Class **2** present (strong forms)	
Class **3** present (weak forms)	Class **3** present (strong forms)	
Classes **4**, **6** & **10** present		
Classes **5**, **7**, **8** & **9** present		
Perfect (weak forms)[15]	$(CV\text{-})^{1+2}$ $(CaC)^{(1)+3}$ (CV'C-) Perfect (strong forms)	$(CV\text{-})^{1+3}$ $(CaC)^{(1)+3}$ Perfect (strong forms)
Perfect participle		
	Root aorist	
a-aorist		
Reduplicating aorist		
(CVC-) s-aorist middle	(CV-) s-aorist middle	s-aorist active
sa-aorist		
(CaC) is-/sis-aorist active	(CV'C) is-/sis-aorist active	(CV-) is-/sis-aorist active
(CaC) is-/sis-aorist middle	(CV-) (CV'C) is-/sis-aorist middle	
	s-future	
	Periphrastic future	
Passive participle		
	Infinitive	

---

[14] Strong forms by definition have either guna or vrddhi and are, usually the first three persons singular active of whichever tense system, the weak forms being those used in the dual and plural and typically exhibiting IE zero grade.

[15] Here, "weak" means what is not categorized strong in the adjacent columns. The symbols a, C, V, V' denote respectively: /a/, any Consonant, any vowel, any vowel other than /a/.

Only verbs of present class 1 have the IE full grade throughout the present system and this class accounts for nearly half of all Sanskrit primary verbal roots; it is also a class whose predominance recurs in other IE languages (BURROW 1955, 327). The reduced grade of thematic classes 6 and 10 is most easily explained as the consequence of the accent falling on the suffix or thematic vowel. Of the thematic classes, class 4, however, defies explanation at first sight along these lines. It has reduced grade, but also retains root accent, which would seem to counteract any theory linking ablaut with accent. But "the apophony of the majority of forms indicates original suffixal accent, although the agreement between Sanskrit and Greek shows that the innovation is of IE date" (BURROW 1955, 329). This does not really answer the query but rather turns it on its head. That the forms have the accent on the root is not the primary evidence. The reduced grade vowel is itself evidence for shift of accent away from the root. An overwhelming body of data speaks for this as the case, so here we must logically have a case where the accent has shifted back to the root again. This is the only acceptable explanation.

The six athematic classes all show apophonic alternation between singular and plural/dual in the present and imperfect indicative active. Classes 2 and 3 display this in their root, classes 5, 8 and 9 in their suffix and class 7 in its infix (namely 5 - *nó/nu*; 8 - *ó u*; 9 - *nā nī*; 7 - *ná/n*). In all of these classes it is as a result of the position of the accent. The athematic classes do not have fixed accent and so in some forms (the so-called strong forms) it falls on the root or class-suffix and in the others (weak forms) on the termination. Such a division is displayed in the Sanskrit perfect tense formation, where singular forms can have full grade or even lengthened grade as opposed to the plural and dual with reduced grade forms.

The aorist splits itself into sigmatic and non-sigmatic formations, the former show, on the whole, full grade or lengthened grade whereas root and a-aorist have reduced grade.[16] As we shall see, in a discussion of Greek, this corresponds neatly with the Greek 1st (sigmatic) aorist and the 2nd aorist systems and the distribution of apophony in them.

The only other form which requires comment is the perfect participle and its reduced grade formation which is reflected in other languages time and again, especially, as we shall see in detail later, in Germanic.

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16 The root aorist originally had lengthening in the active and the formation was originally used by many roots. In the later language it became confined to the roots in /ā/, which is retained throughout, and to the root √*bhū*- "be".

In conclusion at this stage we should note the occurrence of weak and strong forms within a paradigm, and the consequences this has for the ablaut patterning. This distinction will present itself later in dealing with Germanic.

3.2 Greek

3.2.1 The Nature of Greek Ablaut

I shall now examine the Greek evidence in a similar way, discussing the appearance of ablaut and evaluating the Greek conjugational system so that I can then draw out the correspondences and correlations between the systems of Sanskrit and Greek.

Unlike Sanskrit, Greek retains a full system of five vowels as well as the corresponding long vowels /a,e,i,o,u,ā,ē,ī,ō,ū/. Such a system allows a much more complex scheme of ablaut alternation. As we saw, Sanskrit does not display qualitative gradation because of the coalescence of /a,e,o/ and the corresponding long vowels. However, Greek with its complement of five vowels does utilize a qualitative gradation in addition to such Abstufung as has been illustrated by Sanskrit.

SMYTH (1956, 16) sets up a table such as the one below in which he lists the ablaut series of Greek:

	Strong Grades 1		Strong Grades 2	Weak Grade
a)	/e/	:	/o/	∅ or /a/
b)	/ei/	:	/oi/	/i/
c)	/eu/	:	/ou/	/u/
d)	/ā/	:	/ō/	/a/
e)	/ē/	:	/ō/	/e/ or /a/
f)			/ō/	/o/

SMYTH cites such a table under his section on qualitative vowel gradation, although strictly speaking under this term we can, in effect, only regard the two strong grades of the first column, the weak grades are in reality merely a reduced grade of the strong grades to the left and should therefore properly be classed as quantitative gradation. We might also use SMYTH's examples for these series:

a)	ἐγενόμην "I became"	γέγονα "I am born"	γίγνομαι "I become"
	τρέπω "I turn"	τροπή "rout"	ἐτράπην "I was put to flight"
b)	πείθω "I persuade"	πέποιθα "I trust"	πιθανός "persuasive"
c)	ἐλεύσομαι "I shall go"	ἐλήλουθα "I have gone"	ἦλυθον "I went"
d)	φαμί "I say"	φωνή "speech"	φαμέν "we speak"
e)	τίθημι "I place"	θωμός "heap"	θετός "placed"
	ῥήγνυμι "I break"	ἔρρωγα "I have broken"	ἐρράγη "it was broken"
f)		δίδωμι "I give"	δίδομεν "we give"

In addition to this scheme which SMYTH entitles qualitative gradation, he also gives a table displaying what he terms quantitative gradation, thus[17] :

1)	/a/	:	/ē/	τιμάω "I honour"	τιμήσω "I shall honour"
	/a/	: /ā/ before /e,i,r/		ἐάω "I permit"	ἐάσω "I shall permit"
2)	/e/	:	/ē/	φιλέω "I love"	φιλήσω "I shall love"
3)	/i/	:	/ī/	ἱκάνω "I come"	ἵκανον "I went"
4)	/o/	:	/ō/	δηλόω "I show"	δηλώσω "I shall show"
5)	/u/	:	/ū/	φύσις "nature"	φῦμα "growth"

These two tables seem a little bit confusing and perhaps even appear to duplicate information. For our purposes in this thesis the changes listed in the first table are more important than those in the second. The first three rows of the first table show between the strong and weak grades the type of alternation that we have seen in Sanskrit and which represents the alternation between full grade and reduced/zero grade. The difference between the two forms listed as strong grade is the alternation of quality. The base for this alternation is the change *e~o*, and each of the pairs exhibit this change between a front vowel and a back vowel. The second set of three rows from this first table indicates the same principle as the first three rows but shows the long counterparts. So here we are really talking of the deflected grade of long vowels and their subsequent reduction as opposed to the deflected grade of short vowels and zero grade. The alternations a), b) and c) are in effect the same alternation, in each the /e/ of the first column alternates with an /o/ element in the second strong grade and then disappears in the weak alternant where the remaining resonant /i,u/ becomes syllabic and acts as a full vowel. As we shall see later, in chapters 4 and 5, the relationships in this table also underlie the basis of the alternations in the system of ablaut that we shall see in the Germanic verbal system. The second table, which SMYTH

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17 With the note: "In the formation and inflection of words a short vowel often interchanges with its corresponding long vowel." (SMYTH 1956, 14)

had labelled quantitative gradation, represents only what we observed and discussed in the previous chapter as lengthened grade.

So we have seen the possible changes, quantitative and qualitative, which the Greek ablaut system displays. It is now necessary to put these possible changes into a context useful for our purposes in this work.

3.2.2 Ablaut in the Greek Verbal System

The use of ablaut alternations in the Greek verbal system is less systematized and is less easily and comprehensibly categorized than the relationships we were able to discern in the treatment of the Sanskrit system. Let us evaluate some of the observations of SMYTH (1956, 157 *et passim*):

Present Tense System

> Many verbs of the 1st class[18] show variation in the quantity of the vowel of the verb-stem, which is commonly long in the present but fluctuates in the other tenses[19] . (*ibid.*157) e.g. λύω "I loose", λύσω "I shall loose", ἔλυσα "I loosed" but

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[18] Verbs in Greek can be divided into 6 present classes, which correspond to the formation of the present tense from the verb stem. These are (following SMYTH 1956, 163ff.): 1) Simple Class (a: thematic verbs, ω-verbs; b: athematic verbs, μι-verbs); 2) T-Class (a /t/ precedes the thematic vowel; 3) Iota Class (addition of /i/ before thematic vowel, which then causes various phonetic changes in the ending of the stem); 4) N-Class (cf. Sanskrit n-infixing class); 5) Inceptive class (which contains -σκ- or -ισκ- before the thematic vowel); 6)Mixed Class (containing irregular verbs with suppletive forms for various tenses). By far the largest group of verbs is represented by the First or Simple Class.

[19] The tense systems of Greek:

1) Present consisting of: Present and Imperfect Active and Middle.
   Stems according to previous footnote.
2) Future consisting of: Future Active and Middle.
   Stems incorporating an /s/ element.
3) 1st Aorist: 1st Aorist Active and Middle.
   Stems include an /s/ element and the temporal augment.
4) 2nd Aorist: 2nd Aorist Active and Middle.
   Stems incorporate reduced/zero grade vowels and the temporal augment.
5) 1st Perfect: 1st Perfect and Pluperfect Active.
   Stems add -κα and reduplication. Pluperf. also has the temporal augment.
6) 2nd Perfect: 2nd Perfect and Pluperfect Active.
   Stems add -α and have reduplication. Pluperf. has augment. Some verbs show Abtönung.
7) Perfect Middle: Perfect and Pluperfect Middle and Passive, Future Perfect Passive.
   Perf. and Plup. have reduplication and redupl. and augment respectively, Fut. Perf. has reduplication and /s/ suffix.
8) 1st Passive: 1st Aorist Passive and First Future Passive.
   Stems add -θη/-θε and augment for the Aorist, and -θησ for the Future Passive.
9) 2nd Passive: 2nd Aorist and 2nd Future Passive.
   Stems add -η and augment for the Aorist and -ησ for the Future Passive.

"Since few verbs have both the *first* and the *second* form of the same tense, most verbs have only six of these nine tenses; many verbs do not even have six. Scarcely any verb shows all nine systems." (SMYTH 1956, 109)

λέλυκα "I have loosed", λέλυμαι "I have loosed (for myself)", ἐλύθην "I was loosed".

Some verbs of the 4th Class lengthen a short vowel of the present in some other tenses. (*ibid.*) e.g. from λαμβάνω "I take", λήψομαι "I shall take (for myself)", εἴληφα "I have taken", εἴλημμαι "I have taken (for myself)", but ἔλαβον "I took".

Aorist Tense

First Class verbs show a weak/reduced grade (especially) in the second aorist and second passive sytems. /i,u,a/ for /ei,eu,ē/; ∅ for /e/, and /a/ for /e/ when preceded or followed by /l,n,m,r/. e.g. ἐρείκω "I tear", 2nd Aor. ἤρικον; φεύγω "I flee", 2nd. Aor. ἔφυγον; τήκω "I melt", 2nd Aor. pass. ἐτάκην

Perfect tense

In the second perfect tense some verbs of the first present class show *e~o* Abtönung: /ei/ > /oi/, /eu/ > /ou/, /e/ > /o/ and /ē/ > /ō/. e.g. κλέπτω "I steal",2nd Perf. κέκλοφα; ἐλεύσομαι "I shall go", 2nd Perf. ἐλήλουθα (epic); λείπω "I leave", 2nd Perf. λέλοιπα.

General

Verb-stems ending in a short vowel generally lengthen that vowel before the tense-suffix in all tenses (except the present and imperfect) formed by them. (*ibid.*, 159) e.g. τιμάω "I honour", τιμήσω "I shall honour", ἐτίμησα "I honoured", τετίμηκα "I have honoured".

In effect these five points represent the sum total of what can be pinned down as systematized uses of vowel alternation within the verbal system.

The most regular changes are seen in the second aorist and in the second perfect which exhibit reduced/zero grade and deflected grade respectively. A reason for their retained regular gradated features may lie in the fact that these tense systems ".. are historically older than the corresponding first perfect and first aorist." (SMYTH 1956, 175) The second aorist corresponds to the non-sigmatic aorists of Sanskrit of which two regularly show reduced grade like the Greek. Of course no correspondence can be found for the second perfect because of the lack of qualitative gradation in Sanskrit. However, as SOMMERSTEIN (1973) points out, despite what appears to be a regular occurrence of *e~o* ablaut in the 2nd perfect, by no means all verbs capable of this alternation and also showing 2nd perfect forms do in fact display Abtönung:

> ...[e~o ablaut] is confined to one aspect, the perfect active, where there are about 17 common verbs that show an /o/ vowel where they have an /e/ (or some vowel regularly derived therefrom) in other tenses... It is not possible to give any general rule defining the class of verbs subject to e/o ablaut in the perfect. Some of them ... undergo vowel weakening in other tenses; others ... do not. Most have a derivative noun or adjective with an /o/ vocalism, but some do not, and many verbs that do

> have such derivatives do not undergo e/o ablaut in the perfect. This ablaut rule must be regarded, as far as verbal conjugation as concerned, as a minor rule applying only to those few verbs specially marked for it. (SOMMERSTEIN 1973, 74-75)

And regarding reduction:

> Vowel Weakening applies to far more verbs; of those used in ordinary Attic, there are about forty or fifty which undergo it in some tense or other... But in no class of verbs is Vowel Weakening the regular treatment. New verbs added to the language never undergo it. (*ibid.*, 75)

> In verbs, then, ablaut applies only to irregular lexical items... Rules can be stated (just as for strong verbs in German or English[20]) which will give the correct from of most of these irregular tense, but irregular they remain, and the rules will be minor. (*ibid.*)

SOMMERSTEIN does mention another appearance of ablaut in the Greek verb system, and this is in the alternation of the thematic vowel in the present, imperfect and second aorist tenses. "...this vowel is /o/ where the ending begins with a nasal, and /e/ otherwise." (*ibid.*) But as Sommerstein goes on to say, this alternation is "completely non-functional, and the environment in which it occurs will simply have to be added to the list of environments for e/o ablaut." (*ibid.*)

In the Greek verbal system, then, SOMMERSTEIN regards ablaut as an irregularity which is gradually losing its influence. As he states above, no new verbs undergo ablaut relationships in their conjugation[21] , he thus sees the gradation of Ancient Greek as a relic, a survival from an earlier stage when the ablaut alternations were a more integral and functional part of the language, if indeed they ever were functional.

It is interesting that when speaking of ablaut in Germanic languages, in which it became highly functional to a degree in excess of that evidenced in Ancient Greek, one continually refers to Greek paradigms as a model; when in fact the language of Ancient Greece was less systematized in its use of ablaut than that of the Germanic tribes. Only in the second aorist is gradation necessary as a functional tense distinguishing device in order to set it apart from the imperfect which does not display vowel weakening (e.g. λείπω "I leave" Imperf. ἔλειπον, 2nd Aor. ἔλιπον).

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[20] This parenthesis, I find misplaced, especially for the early stages of the two Germanic dialects where the various tense forms can be predicted rather well. This will be dealt with in much more detail in chapters 4 and 5.

[21] This is an interesting point which ought to be borne in mind when the discussion turns to the systematization and extent of ablaut in Germanic.

3.3 The IE Verbal Adjectives

There are certain formations which will be important in our investigation of the Germanic ablaut system but which, though they are well represented in Sanskrit and Greek, we have until now left out of consideration. The reason for this is that they are marginal to the verbal system, being themselves non-finite forms, and therefore need separate treatment. They are the IE verbal adjectives. Two are of importance for an evaluation of the Germanic system:

> Besonders wichtig im Verlauf der Geschichte der Einzelsprachen wurden die Suffixe *-to-* und *-no-*, die als Verbaladjektiva schon zu spätidg. Zeit eine bedeutende Rolle spielten. (SZEMERÉNYI 1990, 351)

In the early stages of the IE group these adjectives differ from participles in that "sie an der Kasusrektion, an den Diathesen und an den Bedeutungsunterschieden. die durch die Tempusstammbildung gegeben sind, nicht teil haben" (BRUGMANN 1904, §816, 610). Participles are subject, like the finite verb forms, to suffixes and themes which indicate changes in tense or voice, this is not the case for verbal adjectives, and in the early stages of Indo-European their meaning carries no sense of the action that we associate with verbs. But later in the development of the languages of the IE family these verbal adjectives become more aligned with the verbs with which they are related.

> Des adjectifs comme gr. κλυ- τό- ς ou στυγ- νό- ς ne sont pas des participes indo-européennes parce qu'ils ne sont pas dérivés de thèmes verbaux; c'est seulement lors du développement des diverses langues que des thèmes présentant ces suffixes ont été incorporés au verbe, ainsi *amātus* en latin ou *dělalŭ* en vieux slave. (MEILLET 1915, 259)

Examples of these adjectives from Greek and Sanskrit are such as the following:

Sanskrit:	*srutá* "heard"; *dattá* "given"; *uktá* "spoken" *bhinná* "split"; *unná* "wet"; *magná* "sunk"
Greek:	κλυτός "famous/heard of"; δοτός "given"; χυτός "melted" αγνός "chaste"; στυγνός "hated"

For both these languages the adjectives in *-to-* are more frequent than those in *-no-*, especially in Greek (and Latin) where "in partizipialähnlichem Gebrauch es ... aufgegeben [ist]" (SZEMERÉNYI 1990, 352). The forms in *-to-*, however are widespread and later, especially in Latin, become part of the verbal system as perfect passive participles. The importance for us is that both of these adjective formations exhibit generally reduced/zero grade. As we shall see later this is exactly the grade we shall find in the Germanic past participles.

3.4 Important Evidence from Elsewhere in the Indo-European Family

The degree of systematization that we see in the two languages Greek and Sanskrit is not really seen in any other languages of the IE family (excepting of course Germanic, which we shall deal with later). However, there are instances in other IE languages that provide further important evidence for the continued discussion of ablaut as a morphological tool in Indo-European. Some of these other examples will be valuable when we come to solving some of the problems we shall discover in the Germanic branch.

The verbal systems of Greek and Sanskrit represent perhaps the extreme of development of the Indo-European family. The two languages have a great number of verbal formations and tenses, all of which are produced using synthetic methods, that is the addition of tense distinguishing morphemes and endings. To take an example of the opposite end of the spectrum, we see that the Hittite tense system is much smaller and less complex than in either Greek or Sanskrit. Hittite has in fact only two synthetic tenses (present and preterite) as opposed to the seven of Greek (present, imperfect, future, aorist, perfect, pluperfect, future perfect). The importance of the morphology in forming tense and aspectual differences in Greek and Sanskrit is much greater than in Hittite, which rather makes these differences in other ways using periphrastic methods and adverbial phrases. The outcome of such a state of affairs is that both Greek and Sanskrit have a greater systemic inventory throughout which ablaut relationships could have been used, in contradistinction to languages with smaller verbal systems where the appearance of certain forms is numerically restricted. Thus it is not surprising that the largest amount of evidence is seen in Greek and Sanskrit. Nevertheless I wish now to look at two instances in other languages which have a substantiating role to play in the present work.

3.4.1 Lengthened Grade in the Latin Perfect

Consider the following examples from Latin of verbs in the present and perfect tenses:

1) *regō* "I rule" *rēxī*; *tegō* "I cover" *tēxī*; *trahō* "I draw" *trāxī*;
vehō "I carry" *vēxī*

2) *agō* "I act" *ēgī*; *emō* "I buy" *ēmī*; *ōđī* "I hate"

3) *iuvō* "I help" *iūvī*; *videō* "I see" *vīdī*; *sedeō* "I sit" *sēdī*;
frangō "I break" *frēgī*; *legō* "I choose/read" *lēgī*; *veniō* "I come" *vēnī*

As can be seen the perfect tense forms, which are given second, all show stems which have a lengthened vowel in comparison to that found in the present. A problem in any comprehensive evaluation of the Latin perfect tense is the fact that the tense is reckoned to be a composite of more than one tense from earlier stages of Indo-European. The Latin perfect does not show any generalized qualities or characteristics except for the endings.

The endings are specific to the perfect tense and occur in every verb. Apart from this little can be said as to any general principles of forming the tense. Some verbs show no stem alternation with the present (e.g *volvō* "I turn" *volvī*), others show reduplication[22] (e.g. *pellō* "I drive" *pepulī*), others show a variety of perfect suffixes (*vetō* "I forbid" *vetuī*; *dīcō* "I say" *dīxī*; *petō* "I seek" *petīvī*; *amō* "I love" *amāvī*) and then those such as *regō*, *agō* and *iuvō* show lengthening. Latin does not possess an aorist tense, as both Sanskrit and Greek do. It is therefore suggested that the Latin perfect is a mixture of elements from the IE aorist and the IE perfect. The personal endings of the singular active of the perfect have been linked with those of the IE perfect in Greek and Sanskrit (SZEMERÉNYI 1990, 259) and the reduplicating perfects recall the generalized tense morpheme in the perfects of Greek and Sanskrit. On the other hand the existence of perfects showing a suffix with an /s/ element makes one think of the sigmatic aorists that we have seen in previous sections of this chapter. As regards, however, the ablaut grades that one would expect in the perfect, the examples from Greek and Sanskrit would suggest either deflected grade (Greek) or reduced/zero grade in the plural (Sanskrit). The examples from Latin, though, do not accommodate these expectations. Can we ascribe the appearance of lengthened grade in the Latin perfect to the IE aorist? If we bear in mind the Table from Section **3.1.2**, we see that, certainly in the active voice, Sanskrit exhibits lengthened grade in the s-aorist and in some verbs of the is-/sis-aorists. When we look to Greek for some confirmation we find that the evidence is difficult to evaluate conclusively. Writing of the sigmatic aorist forms, SMYTH (1956, 173) states that in "verbs showing strong and weak grades, the tense-suffix is added to the strong stem". This would seem to suggest that length played a role in determining the shape of the aorist, but this only makes any real sense when seen in context. The strong grade is not a lengthened grade, it is simply a non-reduced grade. However, the 2nd non-sigmatic Greek aorist, it will be remembered, regularly exhibits reduced grade. A non-reduced sigmatic aorist will appear to be lengthened when set beside a reduced grade form. Although in complementary distribution, (thus only a very small number of verbs will show both a first and a second aorist) nevertheless the distinction between the two on purely formal lines is one based on length. Whatever the details, it seems most appropriate to ascribe these lengthened grade Latin perfects to an original aorist formation, if for no other reason than that they are so unlike the IE perfect formation. Some of them display the aorist s-suffix (*vēxī*), and it is then perhaps tempting to see the others as s-aorists without the /s/. More will be be said about these Latin perfects in Chapter 5, where they are important in an explanation of the lengthened grade forms appearing in the strong verbs of the Germanic classes 4 and 5. For now, however, this superficial description must suffice. What perhaps ought to be added is that those verbs beginning with a vowel and showing lengthened grade forms in the perfect can be interpreted in quite a different way. They may conceivably be

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22 Much more will be said of reduplication in chapter 5, in the excursus.

reduplicated perfects in the normal way, the reduplicative syllable consisting as it must only of a vowel, having coalesced with the root vowel to form a long vowel which appears to have lengthened grade: *emō* : **e-emī* > *ēmī*.

3.4.2 Ablaut in Hittite

The morphological simplicity of the Hittite verbal system means, as I have mentioned, that the opportunities for morphemic ablaut are somewhat reduced. However, there are certain examples from Hittite which seem to show an ablaut relationship operating in the verbal system which offers corroborative evidence to some of the examples we have already seen elsewhere. Examples given by FRIEDRICH (1960, 28) are the following:

kuénzi "he hits"	*kunánzi* "they hit"
kuerzi "he cuts"	*kuranzi* "they cut"
huekzi "he slaughters"	*hukanzi* "they slaughter"

Aside from the rather bloody nature of these examples they do show that some kind of alternation between the singular and the plural forms of verbs in the present was possible. The paucity of the Hittite evidence makes any concrete evaluation of the nature of the verbal system difficult and problematic particularly in regard to the phonology, which suffers from the ambiguities of the syllabic cuneiform script. On the basis of the examples above it seems that the plural forms have a reduced grade version of the vowel combination in the singular forms. This alternation reflects exactly the patterning we saw in the present tense of Sanskrit verbs of classes 2 and 3 and also in the suffixes of classes 5, 7, 8 and 9. It is also the type of alternation which is seen in the Sanskrit perfect tense and indeed in the Greek verb οἶδα "I see"[23] .

3.5 Summary of Ablaut Use in Indo-European

The structure of this chapter has enabled us to determine the primary applications of ablaut relationships in other Indo-European languages not belonging to the Germanic branch. The following applications represent perhaps the major ones which we have seen and the ones which in the languages considered achieved a certain degree of systematization:

Reduced/Zero Grade:	Plural of present tense active and all of middle Plural of perfect tense. Non-sigmatic aorists.
Deflected grade:	Singular of perfect tense.
Lengthened Grade:	Sigmatic Aorist

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[23] The present tense of οἶδα "I see":

Sing.	Plu.
1 οἶδα	ἴσμεν
2 οἶσθα	ἴστε
3 οἶδε	ἴσασι

These uses must be borne in mind for the following chapters, where the situation in the Germanic verbal system will first be described (Chapter 4) and then evaluated against the evidence that we have here discussed for other IE languages (Chapter 5).

4. The Use and Application of Ablaut in the Germanic Strong Verbal System

4.0 Outline

This chapter will begin by outlining and describing the verbal ablaut systems of five of the dialects of the Germanic branch of IE languages: Gothic (Go.), Old English (OE), Old Saxon (OS), Old High German (OHG) and Old Norse (ON). A description of the nature of the Germanic verbal system will, however, first provide a basis for a structured discussion of the ablaut patterning in the dialects. Having detailed the systems of each of the dialects the general pattern will be observed and individual problem areas will become apparent. We will then be able to assess the systematization at work in the Germanic branch. The information in this chapter, while perhaps pedestrian, will nevertheless furnish us with the necessary facts for a detailed investigation of the Germanic ablaut patterning which will follow in Chapter 5.

4.1 Introduction

Germanic refers to all the languages and dialects of the Germanic branch of the Indo-European "tree". Today these comprise: Swedish, Norwegian (Nynorsk and Bokmål), Danish, Icelandic, Faroese, English, Dutch, Afrikaans, German. These in their turn form two sub-groups: North Germanic (Swedish to Faroese) and West Germanic (English to German). A third sub-group, East Germanic, is now extinct, and became so at quite an early stage in the development of the Germanic branch. Its members included the languages of the Goths, Vandals and Burgundians, among those of other eastern tribes. The only substantial written record of this branch, excluding the evidence from onomastic studies and in the historical works of the late Latin authors, is provided by a translation of the bible into Gothic by Bishop Ulfilas from the fourth century A.D. This text represents the earliest literary work in any of the Germanic languages, and is thus of particular historical importance. It is quite possible that, to all intents and purposes, the East Germanic languages became extinct before the first extant texts in any of the other Germanic dialects were written down. Although there are claims made for the continued existence of East Germanic in Crimean Gothic. How long this Crimean form lasted is not known with any certainty, and studies of it only have very sparse evidence to go on.

4.1.1 Germanic Verbal Ablaut: Preliminary Remarks

Ablaut appears in Germanic in the most systematized way in the verbal system. Here it is utilized as a tense-marker, and to a lesser extent as a means of distinguishing number for the so-called strong verbs. Germanic verbs divide into two groups, traditionally called the strong and weak verbs. Weak verbs are those which, in the formation of the preterite tense and in the formation of the past participle, add a dental suffix following the verbal theme (Go. *andwaúrdi<u>da</u>* "answered", OHG *antwurti<u>ta</u>*, OE *andswaro<u>de</u>*). Weak verbs are for the

most part secondary, that is they are derived from nouns, adjectives or other verbs, and as a result are called denominative or deverbative. Because they are derivative, in the early languages they bear derivational suffixes, in contrast to the strong and by implication primary verbs which add the personal endings to the thematic stem or root of the verb.[1] It is these strong verbs which will form the focus of this work because it is they that exhibit ablaut most consistently in the Germanic languages. It is within the verbal system that ablaut develops a morphologically and grammatically important role, in contrast to the systems of Sanskrit and Greek, which we considered in the previous chapter, where ablaut's role is seen as more incidental and can perhaps be disregarded as having any intrinsic morphological function. As we saw in Greek, the number of verbs displaying ablaut to any functional degree is very small, whereas, as will be seen in Germanic, the number is considerably and significantly larger and represents those verbs with the highest token frequency[2] . As a result their use of ablaut can have a significant influence on the language as a whole, and of course firmly entrenches ablaut within the system, more or less guaranteeing its retention as a grammatical function marker throughout the continuing development of the Germanic languages. If ablaut were something both incidental and uncommon, it would perhaps not have developed so complex a system as we have in Germanic. The tendency of language is toward regularity. There may be irregularities but they are only tolerated through frequency or necessity. Thus one can only say that in Germanic ablaut had become so systematized among such a large group of verbs that it would have been almost impossible for the system to have developed in such a way that the strong verbs would all have formed their past tenses with dental suffixes, a German innovation in itself, even though this is the regular formation inasmuch as the majority of verbs conjugate in that way. Some strong verbs have indeed over time swapped to the weak group, when for example the verb becomes so little used that the gradated forms become insecure and ill-remembered by the speakers. In this way, in the modern Germanic languages, there are fewer strong verbs than there used to be in their early stages. There is a struggle between the more complex regularity of the strong verbs with their high token frequency and the rigidly regular weak verbs with their high type frequency. The resistance of the strong verbs to the weak conjugation relies almost wholly on their

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[1] The distinction between Germanic weak and strong verbs is not to be confused with the IE distinction between thematic and athematic verbs. Athematic verbs add the endings directly to the stem of the verbs, this is in fact not the case for the Germanic strong verbs which continue the *o*-theme from IE which in the early Germanic texts appears as /a/; the weak verbs exhibit supplementary themes different from this strong verb theme. In conjunction with the addition of the dental consonant in the preterite forms, these themes mark the weak verbs from the strong verbs. There are very few examples of IE athematic verbs in Germanic: Ger. *sein*, *tun*, *gehen* and *stehen*.

[2] Token frequency = frequency of an individual unit
Type frequency = frequency of a specific type
There are more weak verbs than strong verbs, the weak conjugation thus has a greater type frequency; the strong verbs are among the most common, generally used more often individually than weak verbs and so they have a higher token frequency.

frequency as individual forms. The moment strong verbs become less often used, the more likely they are to become assimilated into the weak conjugation.

The verbal system of Germanic is quite simple compared with what we have seen in those of Greek and Sanskrit, where the number of synthetic tenses was particularly large and the system rather complex, relying on endings and suffixes as a means of expressing temporal and aspectual differences. Among all the dialects, Germanic shows but two tenses: a present and a preterite. Other tense distinctions are made using periphrastic constructions with auxiliaries or through the use of adverbs and temporal prefixes. That the temporal system of the verbs is so much less complex than Greek and Sanskrit means that any ablaut relationships that are displayed will necessarily be that much more evident. If the past tense in Germanic were regularly distinguished by an ablaut relationship, this distinction would by necessity have greater currency than the same relationship holding for one tense distinction in a language with several tenses. The principal parts, for the purposes of defining the different stem alternants in the system are represented by the infinitive, the first persons singular and plural of the preterite tense and the past participle (e.g. Go. *baír-an* "to bear", *bar-*, *bēr-um*, *baúr-ans*). From these four stems are generally formed all the verb forms of each of the dialects, bearing in mind individual cases of vowel mutation (umlaut). On the basis of the patterning of these alternants the verbs in each of the dialects have been ordered into six classes, and an additional class to which belong verbs that reduplicate in Gothic, but that in the other dialects show an ablaut alternation.

The classification in use since the nineteenth century has followed this scheme:[3]

Table 2: Germanic Ablaut System

	Present	Preterite 1	Preterite 2	Past Participle
Class 1:	C+e+i+C	C+a+i+C	C+i+C	C+i+C
Class 2:	C+e+u+C	C+a+u+C	C+u+C	C+u+C
Class 3:	C+e+R+C	C+a+R+C	C+u+R+C	C+u+R+C
Class 4:	C+e+R	C+a+R	C+ē+R	C+u+R
Class 5:	C+e+C	C+a+C	C+ē+C	C+e+C
Class 6:	C+a+C	C+ō+C	C+ō+C	C+a+C
Class 7:	C+a+i+C C+a+u+C C+a+R+C C+ō+C C+ē+C	Reduplication	Reduplication	C+a+i+C C+a+u+C C+a+R+C C+ō+C C+ē+C

[3] C= any consonant; R= any resonant (liquid or nasal).

The exact basis for such classification will be dealt with at the end of this chapter when the verb systems obtaining in each of the dialects have been described in detail, but in order to describe them effectively until that point the systems will be described in terms of the above table and how they differ particularly in regard to the phonology. Before this, however, I should say something about the development of the vowel system in the Germanic branch, and how it differs from an earlier IE system. From such a discussion, the comparison of the systems which we shall make in chapter 5 will be much clearer.

4.1.2 The Germanic Vowel System

The late proto-Indo-European phonological system had a set of five short vowels and five corresponding long vowels (/a,e,i,o,u,ā,ē,ō,ī,ū/), although /i,u/ in addition to their function as full vowels also showed consonantal allophones according to their environment. Both Greek and Latin exhibit all ten of these full vowels, but Sanskrit has only /a,i,u,ā,ī,ū/, the short vowels a,e,o all merging in /a/. The Sanskrit long vowels written *e* and *o* are really contractions of the diphthongs /ai/ and /au/ respectively which can more clearly be seen in the allophones /ay/ and /av/ (and corresponding allographs *ay* and *av*) which appear before vowels.

The treatment of the vowels in Germanic is as follows:

IE /a/ = Gmc. /a/. e.g. Skt. *ájrah*, Gr. ἀγρός, Go. *akrs*, ON *akr*, OHG *ackar*

IE /e/ = Gmc. /e/, but in Gothic this is raised to /i/ except before /r,h,hw/. e.g. Gr. ἔδομαι, Lat. *edō*, ON *eta*, OHG *ezzan*, Go. *itan*.

IE /i/ = Gmc. /i/. Skt. *vidhávā*, Lat. *vidua*, Go. *widuwō*, OHG *wituwa*; Lat. *piscis*, Go. *fisks*, ON *fiskr*, OHG *fisc*.

IE /o/ > Gmc. /a/. Gr. ὀκτώ, Lat. *octo*, OIr. *ocht*, Go. *ahtau*, ON *ātta* (compensatory lengthening upon loss of /h/ < /k/), OHG *ahto*.

IE /u/ = Gmc. /u/. Skt *upari*, Gr. ὑπέρ, Lat. *super*, Go. *ufar*, OHG *ubir*.

The long vowels correspond thus:

IE /ā/ > Gmc. /ō/ (OHG then > /uo/). Skt. *bhrātr*, Gr. φράτηρ, Lat. *frāter*, Go. *brōþar*, ON *bróðir*.

IE /ē/ > Go. /ē/, NGmc.WGmc. /ā/ (but OE > /ǣ/, and Fris. > /ē/). Gr. τίθημι, Lat. *fēci*, Go. *ga-dēþs*, ON *dáð* , OE *dǣd*.

IE /ī/ = Gmc. /ī/. Lat. *suīnus* Russ. *svinoj*, Go. *swein*, ON *svín*, OE/OHG *swīn*.

IE /ō/ > Gmc. /ō/ (OHG > /uo/). IE **bhlō-*, Lat. *flōs*, Go. *blōma*, ON *blóme*, OE *blōma*, OHG *bluoma*.

IE /ū/ = Gmc. /ū/. Skt. *mūs-*, Gr. μῦς, OHG/ON/OE *mūs*.

In Germanic, however, there is a problem in the long vowel system. Gothic, which retains IE /ē/ as /ē/, also shows forms which have /ē/ but which are inconsistent with a development from IE /ē/. Cognate forms in the other Germanic dialects show /ē/ where one would expect /ā/ (or /ǣ/) if they had developed from the IE /ē/. In OHG the development of this other /ē/ parallels the development of Gmc. /ō/ < IE /ō,ā/, viz. /ō/ > /uo,ua/, /ē/ > /ia,ie/, both of them forming diphthongs. This /ē/ (which conventionally is designated /ē²/ to distinguish it from the other /ē/ < IE /ē/) is quite rare and there are only a few words which show any link with IE cognates (tenuous as they may be). However this vowel provides the past tense vocalism for strong verbs of Class 7 in all Germanic dialects except for Gothic which forms the preterite tense by means of reduplication. About this problem there will be more later.

In addition to the ten late-IE monopthongs, each of the low vowels could be joined with the two short high vowels, so that we have a diphthongal scheme thus /ai,ei,oi,au,eu,ou/. Long diphthongs do not play an important role for Germanic and indeed they mostly become shortened and develop as the short diphthongs or else they lose their second element (/i,u/) and develop as long vowels. There have been theories linking the long vowel /ē²/ with the IE diphthong /ēi/, but I shall discuss this later.

The development of the IE diphthongs in Gmc. follows in the main the development of the individual vowels, so that /ai/ and /oi/ merge in /ai/, and /au/ and /ou/ in /au/. Thus:

IE /ai/ > Gmc. /ai/ (but later ON/OHG > /ei/, OS > /ē/, OE > /ā/) Lat. *haedus* < IE **ghaidos*, Go. *gaits*, ON *geit*, OHG *geiz*, OE *gāt*.

IE /ei/ > Gmc. /ī/. Gr. στείχω, Go. *steigan*, ON *stīga*, OHG *stīgan*.

IE /oi/ > Gmc. /ai/ (and it follows the development of Gmc. /ai/ < IE /ai/). OLat. *oino(m)*, Gr. οἴνη, Go. *ains*, ON *einn*, OHG *ein*, OE *ān*.

IE /au/ > /au/ (but OHG > /ou/, OE > /ēa/). Lat. *augēre*, Gr. αὐξέω, Go. *aukan*, ON *auka*, OE *ēacian*.

IE /eu/ > Gmc. /eu/, then > Go. /iu/, NGmc. /iu, iō/, OE /ēo/, OHG /iu,eo>io/. Gr. γεύω, Go. *kiusan*, ON *kjósa*, OE *cēosan*, OHG *kiosan*.

IE /ou/ > Gmc. /au/ (but > OHG /ou/, OE /ēa/). Lit. *raūdas*, Lat. *rūfus*, Go. *raups*, ON *rauðr*, OE *rēad*, OHG *rōt* (/ou/ > /ō/ before dentals).

In addition to these vowels and diphthongs IE also had the capacity to form syllables using the sonants /r,l,m,n/. These could stand as the syllable forming element in a word, e.g. Skt. -*prna*- "full", *mrtam* "death" (compare also Slavic usage, e.g. the island *Krk*). In Germanic these syllabic resonants develop a preceding 'Murmelvokal' which becomes /u/ and later, acccording to phonological environment to /o/.

4.2 The Verbal Systems of the Germanic Dialects

4.2.1 Gothic

Let us begin with the earliest textually attested dialect of Germanic and consider the structure of its verbal ablaut system, using the classification system which we saw in Table 2.

Class 1

Gmc. /ei/ > Go. /ī/ but written nevertheless *ei*. Short /i/ never appears before /r,h,hw/ where the written form *aí* occurs, which corresponds to the development of IE /e/ > Go. /i/ except before /r,h,hw/. Go. /i/ < IE /e/ and Go. /i/ < IE /i/ show parallel development. We can split the class into two sub-groups:

a) *beidan* "wait"	*báiþ*	*bidum*	*bidans*
steigan "ascend"	*stáig*	*stigum*	*stigans*
b) *leihwan* "lend"	*láihw*	*laíhwum*	*laíhwans*
teihan "show"	*táih*	*taíhum*	*taíhans*

Class 2

Gmc. /eu/ appears as /iu/ in Gothic. Parallel to the breaking of /i/ > *aí* (=/e/) before /r,h,hw/, so /u/ > *aú* (=/o/) before /r,h,hw/. In addition there is the verb *-lūkan* "close" with infinitive in /ū/ which would seem to parallel the monophthongization of Class 1 where the Indo-European /ei/ becomes Gmc. /ī/ (=Go. *ei*). I shall say more on this with the description of the OHG system. So here we should divide into three sub-groups:

a) *-biudan* "bid"	*-báuþ*	*-budum*	*-budans*
liugan "tell lies"	*láug*	*lugum*	*lugans*
b) *-lūkan* "close"	*-láuk*	*-lukum*	*-lukans*
c) *tiuhan* "lead"	*táuh*	*taúhum*	*taúhans*
þliuhan "flee"	*þláuh*	*þlaúhum*	*þlaúhans*

Class 3

Gmc. /e/ > Go. /i/ except before /r,h,hw/ where *aí* = /e/. Also /u/ > *aú* = /o/ before /r,h,hw/. Thus two sub-groups:

a) *bindan* "bind"	*band*	*bundum*	*bundans*
-ginnan "begin"	*-gann*	*-gunnum*	*-gunnans*
b) *baírgan* "protect"	*barg*	*baúrgum*	*baúrgans*
waírpan "throw"	*warp*	*waúrpum*	*waúrpans*

Class 4

Gmc. /e/ > Go. /i/ except before /r,h,hw/ where *aí* = /e/. /u/ > *aú* = /o/ before /r,h,hw/. There are also two verbs which have /u/ in the infinitive, however they both only appear in the present tense. Thus three sub-groups:

a) *niman* "take"	*nam*	*nēmum*	*numans*
brikan "break"	*brak*	**brēkum*	*brukans*
b) *trudan*[4] "tread"	**trad*	**trēdum*	**trudans*
wulan "seethe"	**wal*	**wēlum*	**wulans*
c) *baíran* "bear"	*bar*	*bērum*	*baúrans*
-taíran "destroy"	*-tar*	*-tērum*	*-taúrans*

Class 5

Gmc. /e/ > Go. /i/ except before /r,h,hw/ where *aí* = /e/. Thus two sub-groups:

a) *lisan* "read"	*las*	*lēsum*	*lisans*
giban "give"	*gaf*	*gēbum*	*gibans*
b) *saíhwan* "see"	*sahw*	*sēhwum*	*saíhwans*
fraíhnan "ask"	*frah*	*frēhum*	*fraíhans*

Class 6

Follows the pattern of **4.1.1** exactly. One group:

faran "go"	**fōr*	**fōrum*	*farans*
þwahan "wash"	*þwōh*	*þwōhum*	*þwahans*

Class 7

Gothic Class 7 consists of all those verbs that show reduplication in the preterite singular and plural. As we shall see the other Germanic dialects do not show reduplication in these verbs but have a kind of ablaut. The infinitive stems of the Gothic seventh class verbs are various, but they are all what PROKOSCH calls Heavy Bases, being constituted of either a long vowel, or of a short vowel plus two (con)sonants or a diphthong (i.e. vowel + sonant /i,u/) plus consonant. So on the basis of their phonological environment one can classify them in a way which resembles those of the first three classes:

7 a) CaiC	~	1. CeiC
b) CauC	~	2. CeuC
c) CaRC	~	3. CaRC
d) CēC		
e) CōC		

But for their root vowel (/a/ vs. /e/), 7a), b) and c) correspond to the structures of the stems of the first three classes. As we shall see later these correspondences have been seized upon by, among others, COETSEM (1956, et al.) to explain the loss of reduplication in this class for the other Germanic dialects.

In addition to these five groups (7a-e) there are also verbs which show ablaut as well as reduplication, showing /ō/ in the preterite tense. These verbs show /ē/ in the present stem (CēC) or /ai/ when a verbum purum (Cai-). In addition there is the verb *bnauan* "rub" which

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[4] These form an odd little group of verbs which do not exhibit the expected vocalism in the present. These will be looked at in more detail in Chapter 5, Section **5.2.1.1**, when I discuss aorist presents.

is known only from a present participle which possibly belongs to this class if we believe the cases where it occurs in other dialects. So we could list the following eight sub-groups:

a) *háitan* "call"	*haíháit*	*haíháitum*	*háitans*
máitan "cut"	*maímáit*	*maímáitum*	*máitans*
b) *áukan* "add"	*aíáuk*	*aíáukum*	*áukans*
hláupan "leap"	**haíhláup*	**haíhláupum*	**hláupans*
c) *haldan* "hold"	*haíhald*	*haíhaldum*	*haldans*
fāhan "seize"	*faífāh*	*faífāhum*	*fāhans*
d) *slēpan* "sleep"	*saíslēp*	*saíslēpum*	*slēpans*
-blēsan "blow"	**baíblēs*	**baíblēsum*	*blēsans*
e) *hwōpan* "boast"	*hwaíhwōp*	*hwaíhwōpum*	*hwōpans*
**flōkan* "bewail"	**faíflōk*	*faíflōkum*	**flōkans*
f) *grētan* "weep"	*gaígrōt*	*gaígrōtum*	*grētans*
lētan "let"	*laílōt*	*laílōtum*	*lētans*
g) *saian* "sow"	*saísō*	*saísōum*	*saians*
waian "blow"	**waíwō*	*waíwōun*	*waians*
h) *bnauan* "rub"	?	?	?

Gothic seems to hold itself well to the classification outlined in section **4.1.1**. Its only deviations are the regular language internal phonological developments of /i/ > /e/ and /u/ > /o/ before /r,h,hw/. Schematized in a similar way, Gothic on its own looks something like this:[5]

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5 Instead of the Go. graphemes *ai* and *au*, I have used here the corresponding phonemes /e/ and /o/.

Table 3: Gothic Ablaut System

	Present	Pret. 1	Pret. 2	Past Participle
1a)	CīC	CaiC	CiC	CiC-
b)	Cīr,h,hw	Cair,h,hw	Cer,h,hw	Cer,h,hw
2a)	CiuC	CauC	CuC	CuC
b)	CūC	CauC	CuC	CuC
c)	Ciur,h,hw	Caur,h,hw	Cor,h,hw	Cor,h,hw
3a)	CiNC	CaNC	CuNC	CuNC
b)	CaLC	CaLC	CoLC	CoLC
4a)	CiN	CaN	CēN	CuN
b)	CeL	CaL	CēL	CoL
5a)	CiC	CaC	CēC	CiC
b)	Ceh(N),hw	Cah(N),hw	Cēh(N),hw	Ceh(N),hw
6	CaC	CōC	CōC	CaC
7a)	CaiC	CeCaic	CeCaiC	CaiC
b)	CauC	CeCauC	CeCauC	CauC
c)	CaRC	CeCaRC	CeCaRC	CaRC
d)	CēC	CeCēC	CeCēC	CēC
e)	CōC	CeCōC	CeCōC	CōC
f)	CēC	CeCōC	CeCōC	CēC
g)	Cai	CeCō	CeCō	Cai
h)	Cau	?	?	?

At a quick glance at this table, one would imagine that Class 7 is somewhat overloaded with verbs, but the vagaries of the nineteenth-century philologists, whom we must thank for the institution of the sevenfold classification, attributed all reduplicating verbs to a group of their own, perhaps wanting to ignore their Gothic peculiarity. To illustrate which classes were pre-eminent and which were really groups of leftovers, a comprehensive list of all the Gothic strong verbs is useful. Of course, the fund of Gothic that we possess cannot be expected to reflect the totality of strong verbs that Gothic in actuality might have had. I shall list the verbs according to the designations of Table 2 above.[6]

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6 For notes on these verbs and for all Germanic verbs see appendix 7.2.

Class 1a) *beidan* "wait"
beitan "bite"
**deigan*[7] "knead"
dreiban "drive"
greipan "grasp"
hneiwan "bow"
keinan "grow"
**-leiban* "remain"
-leiþan "go"
**neiwan* "be angry"
-reisan "rise"
skeinan "shine"
skreitan "rend"
**-smeitan* "smear"
sneiþan "cut"
speiwan "spit"
steigan "ascend"
**sweiban* "cease"
**weipan* "crown"
-weitan "worship"

b) *leihwan* "lend"
-teihan "tell"
þeihan "thrive"
þreihan "press upon"
weihan "fight"

Class 2a) *-biudan* "bid"
biugan "bend"
driugan "be a soldier"
driusan "fall"
giutan "pour"
**hiufan* "mourn"
-hniupan "break apart"
kiusan "test, choose"
kriustan "gnash"
liudan "grow"
liugan "tell lies"
-liusan "lose"
niutan "enjoy"
-skiuban "push aside"
siukan "be sick"
sliupan "slip"
-þriutan "trouble"

b) *-lūkan* "close"

c) *tiuhan* "lead"
þliuhan "flee"

Class 3a) *bindan* "bind"
bliggwan "beat"
brinnan "burn"
drigkan "drink"
filhan "hide"
finþan "find"
-gildan "repay"
-ginnan "begin"
hilpan "help"
-hinþan "capture"
-linnan "depart"
rinnan "run"
siggwan "sing"
sigqan "sink"
-slindan "swallow"
spinnan "spin"
stigqan "thrust"
swiltan "die"
**-trimpan* "tread"
-þinsan "attack"
þriskan "thresh"
wilwan "rob"
-windan "wind"
winnan "suffer"
-wrisqan "bear fruit"

b) *bairgan* "protect"
**-gairdan* "gird"
hwairban "walk"
-swairban "wipe out"
**-þairsan* "wither"
wairpan "throw"
wairþan "become"

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[7] Infinitives, where they are not extant, are extrapolated from existing present forms such as the present participle

Class 4a)	*brikan* "break"	*stilan* "steal"
	qiman "come"	*-timan* "suit"
	niman "take"	
b)	*trudan* "tread"	*wulan* "seethe"
c)	*baíran* "bear"	*-taíran* "tear"
Class 5a)	*bidjan* "pray"	*-nisan* "be saved"
	itan "eat"	*niþan* "help"
	fitan "labour in birth"	*rikan* "heap up"
	**diwan* "die"	*sitan* "sit"
	giban "give"	*sniwan* "rush"
	-gitan "receive"	*-widan* "bind"
	hlifan "steal"	*-wigan* "shake down"
	qiþan "say"	*wisan* "be"
	ligan "lie"	*wisan* "indulge"
	lisan "read/gather"	*wrikan* "persecute"
	mitan "measure"	
b)	*fraíhnan* "ask"	*saíhwan* "see"
Class 6	*alan* "grow"	*malan* "grind"
	**-anan* "expire"	*sakan* "dispute"
	-daban "beseem"	*skaban* "shave"
	-draban "hew out"	*slahan* "slay"
	-dragan "drag"	*standan* "stand"
	faran "go"	*swaran* "swear"
	graban "dig"	*þwahan* "wash"
	-hlaþan "load"	
	fraþjan "understand"	*-skapjan* "create"
	haffjan "lift"	*skaþjan* "injure"
	hlahjan "laugh"	*wahsjan* "grow"
	-raþjan "count"	
Class 7a)	*-áikan* "deny"	*máitan* "cut"
	fráisan "tempt"	*skáidan* "divide"
	háitan "call"	(- *láihan*)[8] "cherish"
	láikan "leap"	
b)	*áukan* "add"	(*stáutan*) "smite"
	(*-hláupan*) "leap"	

[8] The verbs in parentheses do not exhibit a reduplicated preterite form, so that from this list of 36 possible reduplicating verbs only 22 actually show reduplicated forms. It is still possible to ascribe them to this class on the basis of their phonological environment and from the evidence of other dialects, which although they do not show reduplication, often treat collectively the verbs which in Gothic reduplicated.

c)	(*-alþan*) "grow old"	*haldan* "hold"
	(*arjan*) "plough"	(*-praggan*) "oppress"
	(*blandan*) "mix"	(*saltan*) "salt"
	fāhan "seize"	(*-staggan*) "pierce"
	falþan "fold"	*-staldan* "possess"
	(*gaggan*) "go"	(*waldan*) "rule"
	hāhan "hang"	
d)	(*-blēsan*) "blow"	*slēpan* "sleep"
e)	(*blōtan*) "worship"	*hwōpan* "boast"
	**flōkan* "bewail"	
f)	*grētan* "weep"	*-rēdan* "advise"
	lētan "let"	*tēkan* "touch"
g)	(*faian*) "blame"	*saian* "sow"
	**laian* "revile"	*waian* "blow"
h)	(*bauan*) "live"	(*bnauan*)? "rub"

The outer limit, then, of Gothic verbs is a total of 169, distributed among the seven classes like this:

	1	**2**	**3**	**4**	**5**	**6**	**7**
a)	20	17	25	5	21	15	7
b)	5	1	7	2	2	7	3
c)		2		2			13
d)							2
e)							3
f)							4
g)							4
h)							2
	25	20	32	9	23	22	38
	(14.79%)	(11.83%)	(18.93%)	(5.33%)	(13.61%)	(13.02%)	(22.49%)

Before trying to evaluate this data I shall continue by treating the four other dialects under scrutiny here in the same way. That is, with a description of the system and a comprehensive list of the affected verbs.

4.2.2 Old English

We shall now look at the verbal system as seen in the dialect of Old English, likewise using the traditional seven class system as the basis.

Class 1

Gmc. /ai/ > OE /ā/. The class generally follows its Gmc. pattern closely but there is a small group of contracted verbs which show /īo,ēo/ in the present tense, but otherwise follow the other verbs of the class, except that because of the present tense vocalism they also tend to conjugate according to Class 2 which has this vocalism in its present stem. The verbs listed under this class are those which derive or are contracted from -*īha*-, which does show the vocalism appropriate to the class. Because of the /h/, Grammatical Change appears in the shape of /g/ in the preterite plural and PP of these contracted verbs. So two sub-groups:

a) *drīfan* "drive"	*drāf*	*drifon*	*drifen*
snīþan "cut"	*snāþ*	*snidon*	*sniden*
b) *lēon* "lend"	*lāh*	*ligon*	*ligen*
þēon "thrive"	*þāh*	*þigon*	*þigen*

Class 2

Gmc. /eu/ > OE /ēo/. Gmc. /au/ > /ēa/. Also, to account for the difference between Preterite plural and PP vocalisms, IE /u/ > Gmc /o/ when followed by original /a,ā,o,ō,e,ē/ or the suffix IE *-*eno*- (used in forming the PP), when not checked by a nasal + Cons. or an intervening /i,j/. Compare Class 2 in OHG. This change does not appear in Ulfilas's Gothic. In addition to the normal series there are also some verbs with /ū/ in the present tense, cf. Go. and OHG. There are contracted verbs in this Class which show the same vocalism as the uncontracted majority, but merely without the stem-final consonant. Also the Contracted verbs of Class 1 (b) have a tendency to show conjugation according to Class 2. Thus three groups:

a) *clēofan* "split"	*clēaf*	*clufon*	*clofen*
sēoþan "boil"	*sēaþ*	*sudon*	*soden*
b) *brūcan* "use"	*brēac*	*brucon*	*brocen*
sūcan "suck"	*sēac*	*sucon*	*socen*
c) *flēon* "flee"	*flēah*	*flugon*	*flogen*
tēon "draw"	*tēah*	*tugon*	*togen*

Class 3

IE /e/ > Gmc. /i/ before nasal + Cons. Breaking of /a/ > /ea/ before /l,r,h,h+C/, and of /e/ > /eo/ before /r,h,h+C,lc/. Gmc. /a/ > OE /æ/, especially in closed syllables. /u/ > /o/ before /a,ā,e,ē,o,ō/ or *-*eno*-, as in Class 2, when not checked by nasal + Cons. or /i,j/. Thus three rather ragbag groups:

a) *drincan* "drink"	*dranc*	*druncon*	*druncen*
windan "leap/roll"	*wand*	*wundon*	*wunden*

b) *belgan* "be angry"	*bealg*	*bulgon*	*bolgen*
meltan "melt"	*mealt*	*multon*	*molten*
gieldan "yield/pay"	*geald*	*guldon*	*golden*
ceorfan "cut"	*cearf*	*curfon*	*corfen*
feohtan "fight"	*feaht*	*fuhton*	*fohten*
meolcan "milk"	*mealc*	*mulcon*	*molcen*
c) *stregdan* "strew"	*strægd*	*strugdon*	*strogden*
frignan "ask"	*frægn*	*frugnon*	*frugnen/ frognen*
þerscan "beat/thresh"	*þærsc*	*þurscon*	*þorscen*

Class 4

Gmc. /a/ > /æ/. Gmc. /ē/ > /ǣ/. /u/ > /o/ before /a,ā,e,ē,o,ō/ or *-*eno*-, except when checked by a nasal + Cons. or /i,j/. The normal pettern is therefore:

helan "conceal"	*hæl*	*hælon*	*holen*
teran "tear"	*tær*	*tǣron*	*toren*

In addition there are the following two verbs which have aberrant forms but which on account of their phonological environment are classified here:

cuman "come"	*cōm*	*cōmon*	*cumen*
niman "take"	*nōm/ nam*	*nōmon/ nāmon*	*numen*

Class 5

This class runs according to the pattern set up for Germanic. The subdivisions are caused by different types of verbs. As in other dialects there are a group of *j*-present verbs which belong here and which, due to *i*-umlaut caused by the original /j/, have /i/ as the present vocalism. In addition there are some contracted verbs which conjugate according to Class 5. Thus three groups:

a) *swefan* "sleep"	*swæf*	*swǣfon*	*swefen*

but /æ,ǣ/ > /ea,ēa/ after palatal /c,g,sc/:

giefan "give"	*geaf*	*gēafon*	*giefen*
b) *biddan* "ask/bid"	*bæd*	*bædon*	*beden*
licgan "lie"	*læg*	*lægon*	*legen*
c) *sēon* "see"	*seah*	*sægon/ sāwan*	*segen/ sewen*
plēon "risk"	*pleah*	*plægon*	*plegen*

Class 6

This class can also be divided into those that follow the Germanic pattern, *j*-presents and contracted verbs. *J*-presents show /e/ in the present unless broken to /ie/ by palatal consonants. So:

a) *sacan* "fight"	*sōc*	*sōcon*	*sacen/sæcen*[9]
grafan "dig"	*grōf*	*grōfon*	*grafen/græfen*
b) *hebban* "lift"	*hōf*	*hōfon*	*hafen/hæfen*
scieppan "shape"	*scōp*	*scōpon*	*sceapen*
c) *slēan* "slay"	*slōg/slōh*	*slōgon*	*slagen/slægen*
flēan "flay"	*flōg/flōh*	*flōgon*	*flagen/flægen*

Class 7

Also called the reduplicating class although in OE only a few fragmentary and other perhaps spurious forms showing reduplication actually exist. This class, however, contains all those verbs which in Gothic did form the preterite tense using reduplication. Class 7 verbs can be divided into two groups according to their preterite vocalism: in OHG this is either /ia/ or /io/ (both of which by the late OHG period have merged to /ie/), in OE, however, the vocalism splits to either /ē/ or /ēo/. But the division does not seem as clear-cut as in OHG, with many verbs seeming to be misplaced. The very general guidelines are as follows:- Verbs with stem vowels /ā/+Cons (but not /w/) or /æ/ have /ē/ in the preterite, in addition, however, *blandan*, *hōn* and *fōn* belong here. All others have /ēo/; these include stems /a/+R+C (with breaking before /l,r,h/), /ā/+w (verba pura), /ēa/+C and /ō/+C (inc. verba pura *-ōw*). There are however exceptions which do not fit this scheme, these will be seen in the lists of verbs. So:

a)i) *hātan* "order/name"	*hēt*	*hēton*	*hāten*
ii) *slǣpan* "sleep"	*slēp*	*slēpon*	*slǣpen*
iii) *fōn* "catch"	*fēng*	*fēngon*	*fangen*
b)i) *bannan* "summon"	*bēon*	*bēonnon*	*bannen*
ii) *feallan* "fall"	*fēoll*	*fēollon*	*feallen*
iii) *blāwan* "blow"	*blēow*	*blēowon*	*blāwen*
sāwan "sow"	*sēow*	*sēowon*	*sāwen*
iv) *bēatan* "beat"	*bēot*	*bēoton*	*bēaten*
v) *hrōpan* "cry out"	*hrēop*	*hrēopon*	*hrōpen*
grōwan "grow"	*grēow*	*grēowon*	*grōwen*

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9 "The regular development of Germanic /a/ when followed by a palatal vowel in the next syllable is /æ/, so that forms with /a/ like *faren*, &c, are new formations with /a/ from the present." (WRIGHT 1914, § 508, p.271)

As for the previous dialect I ought once again to redefine the actual Gmc. verb system for OE in terms of the dialectal changes from Table 2.

Table 4: Old English Ablaut System[10]

	Present	Pret 1	Pret 2	PP
1.a)	CīC	CāC	CiC	CiC
b)	Cēo-	CāC	CiC	CiC
2.a)	CēoC	CēaC	CuC	CoC
b)	CūC	CēaC	CuC	CoC
c)	Cēo-	CēaC	CuC	CoC
3.a)	CiNC	CaNC	CuNC	CuNC
b)	CeLC	CeaLC	CuLC	CoLC
	PieRC	PeaLC.	PuLC	PoLC
	Ceor,l,hC	Cear/l/hC	Cur/l/hC	Cor/l/hC
c)	CreC	CræC	CruC	CroC
	CerC	CærC	CurC	CorC
	CriC	CræC	CruC	CroC/CruC
4.a)	CeR	CæR	CǣR	CoR
	(CuN/CiN	CōN	CōN	CuN)
5.a)	CeC	CæC	CǣC	CeC
	PieC	PēaC	PēaC	PieC
b)	CiC	CæC	CǣC	CeC
c)	Cēo-	CeaC	CǣC/(CāC)	CeC
6.a)	CaC	CōC	CōC	CaC/CæC
b)	CeC	CōC	CōC	CaC/CæC
c)	Cēa-	CōC	CōC	CaC/CæC
7.a)i)	CāC	CēC	CēC	CāC
ii)	CǣC	CēC	CēC	CǣC
iii)	Cō-	CēNC	CēNC	CaNC
b)i)	CaNC	CēoNC	CēoNC	CaNC
ii)	CeaLC	CēoLC	CēoLC	CeaLC
iii)	Cāw	Cēow	Cēow	Cāw
iv)	CēaC	CēoC	CēoC	CēaC
v)	CōC	CēoC	CēoC	CōC
vi)	Cū-	(CēoC	CēoC)	Cū-

It does not really take a genius to note that the intricacies of this system are much greater than that we set up for Gothic in Table 3. To a certain extent these intricacies are caused by language internal developments of purely phonological nature, which at this stage of the language affect it only incidentally. The main difference is the seventh class without

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10 In addition: P= Palatal Cons.(here /g,c,sc/; N=Nasal; L=Liquid.

reduplication, in contrast to Gothic which shows it. As with Gothic I shall now introduce a comprehensive list of the Old English strong verbs in their traditional classifications.[11]

Class 1a) *bīdan* "wait"
bītan "bite"
blīcan "shine"
cīnan "gape"
clīfan "cleave/adhere"
cnīdan "beat"
-cwīnan "disappear"
drīfan "drive"
drītan "shit"
dwīnan "fade"
flītan "strive"
-gīnan "yawn"
glīdan "glide"
gnīdan "rub"
grīpan "grasp"
-grīsan "fear"
hlīdan "cover"
hnīgan "bow"
hnītan "strike"
hrīnan "touch"
hwīnan "whistle"
-līfan "remain"
līþan **V** "go"
mīgan "piss"
mīþan "conceal"
nīpan "grow dark"
rīdan "ride"
rīnan "rain"
rīpan "reap"
rīsan "rise"
scīnan "shine"
**-scītan* "shit"
scrīfan "decree"
scrīþan (**V**) "go"
sīcan "sigh"
sīgan "sink"
slīdan "slide"
slīfan "slive"
slītan "slit"
smītan "smear"
snīþan **V** "cut"
spīwan "spew"
stīgan "ascend"
strīcan "stroke"
strīdan "stride"
swīcan "turn"
swīfan "wend"
þīnan "get moist"
þwīnan "dwindle"
þwītan "cut off"
wīcan "yield"
wītan "see"
wītan "go"
wlītan "look"
wrīdan "grow"
wrītan "write"
wrīþan "twist"

b)[12] *lēon* (< **līhan*) **V** "lend"
sēon (< **sīhan*) **V** "strain"
tēon (< **tīhan*) **V** "accuse"
þēon (< **þīhan*) **V** "thrive"
wrēon (< **wrīhan*) **V** "cover"

Class 2a) *bēodan* "command"
brēotan "break"
-brēoðan "ruin"
brēowan "brew"
cēosan **V** "choose"
cēowan "chew"
clēofan "cleave/split"
**hrēodan* "adorn"
hrēosan **V** "fall"
hrēowan "rue"
lēodan "grow"
lēogan "tell lies"
-lēosan **V** "lose"
nēotan "enjoy/use"

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[11] A **V** indicates that the verb exhibits forms which show the effects of Verner's Law (See Section **2.2.1**)

[12] Of the contracted verbs, *þēon* and *wrēon* regularly show forms following Class 2, *tēon* almost totally according to Class 2. *Lēon* and *sēon* appear to conjugate only according to Class 1. A *sēon* with the meaning "see" belongs to Class 5. The earliest forms of these verbs have *-īo-* in the infinitive which more directly points to their true etymology and thereby their inclusion in Class 1. *þēon* originally had a nasal before the contracted /h/ and would therefore have first belonged to Class 3 (cf. CAMPBELL 1959, §739, 308).

crēopan "creep"
drēogan "endure"
drēopan "drip"
drēosan **V** "fall/die"
flēogan "fly"
flēotan "float"
frēosan **V** "freeze"
gēopan "receive"
gēotan "pour"
grēotan "weep"
hlēotan "cast lots"
hnēopan "rip"
rēocan "reek"
rēodan "redden"
**rēofan* "break"
rēotan "cry"
scēotan "shoot"
sēoðan **V** "boil"
smēocan "smoke"
snēowan "hurry"
sprēotan "burgeon"
þēotan "howl"
þrēotan "vex"

b) *brūcan* "use"
būgan "bow"
crūdan "crowd"
dūfan "dive"
hrūtan "snore"
lūcan "close"
lūcan "uproot"
lūtan "bow"
scūdan "rush"
scūfan "shove"
slūpan "slip"
smūgan "creep"
sūcan "suck"
sūgan "suck"
sūpan "sup"
strūdan "spoil"

c) *flēon* (< **flēohan*) **V** "flee"
tēon (< **tēohan*) **V** "draw"

Class 3a) *bindan* "bind"
beornan/birnan "burn"
bringan "bring"
**climban* "climb"
clingan "wither/cling"
crimman "crumble"
cringan "fall/cringe"
-cwincan "disappear"
drincan "drink"
findan "find"
-ginnan "begin"
grimman "rage"
grindan "grind/rub"
hlimman "roar"
**hrimpan* "shrink"
**hrindan* "push"
irnan/iernan "run"
limpan "befall"
-linnan "cease"
**scrimman* "clench"
scrincan "wither"
sincan "sink"
singan "sing"
sinnan "care for"
slincan "crawl"
slingan "wind"
spinnan "spin"
springan "jump"
**sprintan* "declaim"
stincan "stink"
stingan "sting"
swimman "swim"
swincan "toil"
swindan "languish"
swingan "flog"
**tingan* "press"
**tinnan* "burn"
þindan "swell"
þringan "press"
þrintan "swell"
windan "leap/roll"
winnan "labour/win"
wringan "wring/twist"

b) *belgan* "be angry"
bellan "bark"
beorcan "bark"
beorgan "defend"
ceorfan "cut"
**cerran* "creak"
**cwellan* "gush"
**cwerran* "swallow"
delfan "dig"
meolcan "milk"
meltan "melt"
sceorpan "scrape"
sceorfan "gnaw"
-seolcan "languish"
sciellan "sound"
serðan "fuck"
smeortan "smart"
**snerkan* "shrink"

deorfan "labour"
feohtan "fight"
fēolan **V** "press on"
**feortan* "fart"
**fleohtan* "weave"
**gerran* "creak"
gieldan "yield"
giellan "yell"
gielpan "boast"
helpan "help"
hweorfan "turn/go"
steorfan "die"
swelgan "swallow"
swellan "swell"
sweltan "die"
sweorcan "grow dark"
sweorfan "rub"
-teldan "cover"
**wellan* "surge"
weorpan "cast/throw"
weorþan **V** "become"

c) *berstan* "burst"
bregdan "cast/bend"
fregnan "ask"
**-hrespan* "rip"
murnan "mourn"
spurnan "reject"
stregdan "strew"
þerscan "beat/thresh"

Class 4 *beran* "bear"
brecan "break"
cwelan "die"
dwelan "err"
helan "hide"
**hlecan* "fit"
hwelan "roar"
scieran "cut"
stelan "steal"
stenan "groan"
swefan "sleep"
swelan "burn"
teran "tear"
þweran "twirl"

niman "take"
cuman "come"

Class 5a) *cnedan* "knead"
cweþan **V** "say"
drepan "strike"
etan "eat"
**fetan* "fall"
giefan "give"
-gietan "get/obtain"
lesan "gather"
metan "measure"
nesan "be saved"
**repan* "reap"
**repan* "chastise"
screpan "scrape"
specan/sprecan "speak"
tredan "tread"
**þrekan* "fear"
wefan "weave"
wegan "move"
-wegan "fight"
wesan **V** "be"
wrecan "drive/press"

b) *biddan* "ask/bid"
licgan "lie"
sittan "sit"
þicgan "receive"

c) *-fēon* (< **feohan*) **V** "rejoice"
plēon (< **pleohan*) **V** "risk"
sēon (< **seohan*) **V** "see"

Class 6a) *acan* "ache"
alan "grow"
bacan "bake"
calan "grow cold"
**dafan* "befit"
dragan "drag"
faran "go/fare"
galan "sing"
gnagan "gnaw"
hladan "load"
sacan "fight"
scacan "shake"
scafan "shave"
spanan "tempt"
standan "stand"
tacan "take"
**þracan* "endure?"
wacan "wake"

	grafan "dig"	*wadan* "go"
b)	*hebban* "lift"	*sciebban* "harm"
	hliehhan "laugh"	*stæppan* "step"
	scieppan "shape"	*swerian* "swear"
c)	*flēan* (< **fleahan*) **V** "flay"	
	lēan (< **leahan*) **V** "blame"	
	slēan (< **sleahan*) **V** "slay"	
	þwēan (< **þweahan*) **V** "wash"	
Class 7a)i)	*hātan* "order/name"	*scādan* "separate"
	**hwātan* "push"	*spātan* "spew"
	lācan "swing/play"	
ii)	*brædan* "roast"	*lætan* "let"
	grætan "weep"	*rædan* "counsel"
	drædan "dread"	*slæpan* "sleep"
iii)	*fōn* "catch"	*hōn* "hang"
	blandan "blend"	
b)i)	*bannan* "summon"	*spannan* "clasp"
	gangan "go"	*wascan* "wash"
ii)	*fealdan* "fold"	*wealcan* "roll/toss"
	feallan "fall"	*wealdan* "wield"
	healdan "hold"	*weallan* "well/roll"
	sealtan "salt"	*weaxan* "grow"
	stealdan "possess"	
iii)	*swāpan* "sweep"	
	blāwan "blow"	**rāwan* "put in rows"
	cnāwan "know"	*sāwan* "sow"
	clāwan "scratch"	*þrāwan* "throw"
	crāwan "crow"	*wāwan* "blow"
	māwan "mow"	
iv)	*bēatan* "beat"	*hēafan* "lament"
	**dēagan* "hide"	*hēawan* "hew"
	**ēacan* "increase"	*hlēapan* "leap"
	**ēadan* "grant"	**nēapan* "overwhelm"
v)	*blōtan* "sacrifice"	*hwōsan* "cough"
	flōcan "clap"	*swōgan* "rush"
	hrōpan "cry out"	*wrōtan* "roo up"
	hwōpan "threaten"	
	wēpan "weep"	
	blōwan "bloom"	*hlōwan* "bellow/low"
	flōwan "flow"	*rōwan* "row"
	glōwan "glow as a fire"	*spōwan* "succeed"
	grōwan "grow"	**þrōwan* "thrive"

vi) *būan* "build"

The greatest possible count of OE strong verbs amounts to 341 of which a few may be spurious, and others have been verified with reference to other dialects. This list has been compiled using WRIGHT (1914) and CAMPBELL (1959) checked against SEEBOLD (1970) and also BOSWORTH (1964).

The 341 OE verbs are distributed as follows:

	1	**2**	**3**	**4**	**5**	**6**	**7**
a)	57	37	43	14	21	20	5
b)	5	16	39		4	6	6
c)		2	8		3	4	3
d)							4
e)							9
f)							10
g)							8
h)							16
i)							1
	62	55	90	14	28	30	62
	(18.18%)	(16.13%)	(26.39%)	(4.11%)	(8.21%)	(8.8%)	(18.18%)

4.2.3 Old Saxon

Our next port of call is an evaluation of the ablaut series found in Old Saxon.

Class 1

IE /ei/ > Gmc. /ī/ = OS /ī/, IE /ai/ > OS /ē/. The class remains intact with no extra dialect-internal developments complicating matters. Thus:

grīpan "grasp"	*grēp*	*gripun*	*gigripan*
līhan "lend"	*lēh*	*liwun*	*giliwan*
snīthan "cut"	*snēth*	*sniðun*	*gisniðan*

Class 2

IE /eu/ > OS /eo,io/ when an /a,e,o/ stands in the following syllable and a /w/ does not intervene; otherwise /eu/ remains. Early OS /eo,io/ > later OS /ea,ie/. IE /ou/ > Gmc. /au/ > OS /ō/. Gmc. /u/ > OS /o/ when /a,e,o/ follow in the next syllable and when not checked by a nasal; thus the PP, ending in *-an*, causes the change in contrast to the preterite plural forms which, with endings in /i,u,Ø/, do not. As well as the normal alternation for this series (eo~ō~u~o) there are also some verbs which have /ū/ in the present tense. Thus we can split this series into two groups as follows:

a)	*biodan* "offer"	*bōd*	*budun*	*gibodan*
	kiosan "choose"	*kōs*	*kurun*	*gikoran*
b)	*lūkan* "close"	*lōk*	*lukun*	*gilokan*

Class 3

This class splits neatly into two groups according to dialect internal developments. The change /u/ to /o/ except when checked by a nasal means that the class splits on the one hand in its past participle, and on the other hand the change of /e/ to /i/ before a nasal means that there is a correponding split in the present tense vocalism. The change /u/ to /o/ is, however, unstable and often does not conform. It will perhaps be useful to segregate in addition those verbs which show the liquid before the root vocalism as in for example *flehtan* "weave".

a)	*bindan* "tie"	*band*	*bundun*	*gibundan*
	sinkan "sink"	*sank*	*sunkun*	**gisunkan*
b)	*werpan* "throw"	*warp*	*wurpun*	*giworpan*
	helpan "help"	*halp*	*hulpun*	*giholpan*
c)	**fregnan* "ask"	*fragn*	*frugnun*	*gifrugnan*
	flehtan "weave"	**flaht*	**fluhtun*	*giflohtan*

Class 4

Gmc. /a/ = OS /a/. IE /ē/ > OS /ā/. Gmc. /u/ > /o/ before /a,e,o/. These developments mean that the alternation is e~a~ā~o, as follows:

brekan "break"	*brak*	*brākun*	*gibrokan*
beran "bear"	*bar*	*bārun*	*giboran*

In addition there are, as with OE, the following two verbs which appear to defy the class structure. *Niman*, however, because of the intervocalic nasal undergoes the extra changes which were noted for group 3a): /e/ > /i/ and the checking of the change /u/ > /o/. Thus:

niman "take"	*nam*	*nāmun*	*ginuman*

And the second verb is *cuman* which shows /u/ throughout the present, but follows the pattern for the group (but with /u/ in the PP as *niman* and /k/ > *qu* in the preterite) for the other forms.

cuman "come"	*quam*	*quāmun*	*gikuman*

Class 5

This class follows the developments of Class 4, showing in contrast the vocalism of the present tense in the PP. There are also some *j*-presents which accordingly show /i/ in the present as a result of the influence of the following /j/ on the /e/ vocalism of the root syllable.

a)	*geban* "give"	*gaf*	*gābun*	*gigeban*
	lesan "collect"	*las*	*lāsun*	*gilesan*
b)	*biddian* "ask"	*bad*	*bādun*	*gibedan*
	sittian "sit"	*sat*	*sātun*	*gisetan*

Class 6

The alternation pattern of OS Class 6 corresponds exactly to the model in Table 2 (**4.1.1**). There are a group of *j*-presents just as in OE and these show /e/ in the present tense as the

mutated form of /a/. The /ō/ of the preterite is often found in the texts rendered as *uo* whether this means that the sound has been diphthongized, as in OHG, or not.

a)	*dragan* "drag/draw"	*drōg*	*drōgun*	*gidragan*
	faran "go/fare"	*fōr*	*fōrun*	*gifaran*
b)	*heffian* "lift"	*hōf*	*hōbun*	*gihaban*
	swerian "swear"	*swōr*	*swōrun*	*giswaran*

Class 7

As we have seen in the case of Old English, Class 7 exists purely as a result of the fact that the verbs in it reduplicate in Gothic. This means that the class appears to be rather ragbag. In OS the class splits into two groupings according to the preterite vocalism: /ē/ or /ō/. This split is confirmed in considering the role of the present tense vocalism. Those verbs having /ē/ in the preterite, have in the present tense either OS /a/ (=Gmc. /a/), OS /ā/ (< Gmc./ē/) or OS /ē/ (< Gmc. /ai/), whereas those verbs with preterites in /io/ show OS /ō/ (< Gmc. /au/) or /io/ (< Gmc. /ō/). These two OS /ō/'s are not signified differently in the texts except that /ō/< Gmc. /ō/ is sometimes found as *uo*. For practical purposes there is no difference and the verbs of both heritages can be treated together. The group with /ē/ in the present tense is interesting because in the texts this vocalism is seen in all tenses, the tenses therefore being indicated in effect by the personal endings of the verb and by context. The /ē/ found in the preterite tense is the vowel often called /ē²/, an elusive creature which will be dealt with in much greater detail in Chapter 5, and it often appears in the texts as *ie*, resembling the diphthongal vocalism of OE and OHG at this point. Those verbs with /a/ in the present tense in actual fact exhibit /e/ in the preterite, which seems to be shortening of original /ē/ as a result of two following consonants.[13] We have, then, identified four subdivisions of the class, as follows:

a)	*haldan* "hold"	*held*	*heldun*	*gihaldan*
	gangan "go"	*geng*	*gengun*	*gigangan*
b)	*lātan* "let"	*lēt*	*lētun*	*gilātan*
	rādan "advise"	*rēd*	*rēdun*	*grādan*
c)	*hētan* "(be) call(ed)"	*hēt*	*hētun*	*gihētan*
	skēdan "separate"	*skēth*	**skēthun*	*giskēthan*
d)	*hrōpan* "call"	*hriop*	*hriopun*	**gihrōpan*
	stōtan "push"	*stiot*	*stiotun*	*gistōtan*

As for the two previous Germanic dialects, these class alternations will now be represented in tabular form in accordance with the scheme of Table 2:

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[13] This echoes the case in Old Norse where verbs like *fá* "catch" have a preterite *fekk*.

Table 5: Old Saxon Ablaut System

	Present	Pret 1	Pret 2	PP
1	CīC	CēC	CiC	CiC
2a)	CioC	CōC	CuC	CoC
b)	CūC	CōC	CuC	CoC
3a)	CiNC	CaNC	CuNC	CuNC
b)	CeLC	CaLC	CuLC	CoLC
c)	CLeC	CLaC	CLuC	CLoC
4)	CeR	CaR	CāR	CoR
	(CeC	CaC	CāC	CoC)
	nim	nam	nām	num
	kum	quam	quām	kum
5a)	CeC	CaC	CāC	CeC
b)	CiCCi	CaC	CāC	CeC
6a)	CaC	CōC	CōC	CaC
b)	CeCCi	CōC	CōC	CaC
7a)	CaRC	CeRC	CeRC	CaRC
b)	CāC	CēC	CēC	CāC
c)	CēC	CēC	CēC	CēC
d)	CōC	CioC	CioC	CōC
	Cū	?Cio-	?Cio	Cū

And to complete the profile of OS, a list of the strong verbs in their respective groupings. Verbs showing VERNER's Law consonant alternation are marked with a **V**:

Class 1

bīdan "wait"
bītan "bite"
blīkan "glimmer"
drīƀan "drive"
*-*flīhan* "direct"
flītan "vie"
glīdan "glide"
glītan "glisten"
grīpan "grasp"
hlīdan "close"
hnīgan "bow"
**hnītan* "shove"
hrīnan "touch"
**hrītan* "rip"
kīnan "grow"
-klīban "cling"
**rīdan* "ride"
rīsan "rise"
**sīgan* "sink"
**skīðan* "split"
skīnan "shine"
**skrīan* "shout"
skrīban "write"
skrīðan "step"
slītan "slice"
**-smītan* "throw"
snīðan **V** "cut"
**spīwan* "spew"
stīgan "climb"
swīkan "deceive"
-tīhan "accuse"
-thīhan **V** "thrive"

-līban "remain"
līhan **V** "lend"
līthan "go"
mīðan **V** "avoid"

**wīkan* "yield"
-wītan "go"
wītan "reproach"
wrītan "write"

Class 2a) *biodan* "offer"
**biogan* "bend"
**-bliuwan* "beat"
**briuwan* "brew"
driogan "deceive"
driopan "drip"
driosan "fall"
fliotan "flow"
giotan "pour"
griotan "cry"
hioban "mourn"
hliotan "attain"

hreuwan "hurt"
kiosan **V** "choose"
**klioban* "cleave"
liodan "grow"
liogan "tell lies"
-liosan **V** "lose"
niotan "enjoy"
skietan "shoot"
**sliotan* "close"
tiohan **V** "pull"
fliohan "flee"
**thriotan* "vex"

b) *brūkan* "use"
hrūtan "snore"
-lūkan "close"

sūgan "suck"
sprūtan "burgeon"

Class 3a) *-bindan* "bind"
bringan "bring"
brinnan "burn"
drinkan "drink"
fiðan/findan "find"
-ginnan "begin"
grimman "rage"
rinnan "run"
singan "sing"
sinkan "sink"
**slindan* "swallow"

**springan* "jump"
-swindan "fade"
**swingan* "swing"
**thinsan* "pull"
**thrimman* "swell"
thringan "press"
thwingan "force"
windan "wind/wend"
winnan "labour/win"
**wringan* "wring"

b) *belgan* "be angry"
**bergan* "protect"
-delban "delve"
-felhan "press"
geldan "pay"
**hellan* "sound"
helpan "help"
hwerban "turn"
quellan "gush"
**skerran* "scrape"
**smeltan* "melt"

-spurnan "tread"
sterban "die"
swellan "swell"
sweltan "die"
**swerban* "rub"
swerkan "darken"
-wellan "surge"
werpan "throw"
werran "confuse"
werðan **V** "become"

c) **bregðan* "twist"
brestan "burst"
fehtan "fight"

flehtan "weave"
**fregnan* "ask"
leskan "extinguish"

Class 4 *beran* "bear"
brekan "break"
**dwelan* "delay/err"
helan "conceal"
quelan "suffer"

niman "take"

sprekan "speak"
stekan "stab"
stelan "steal"
**-teman* "suit"

kuman "come"

Class 5a) *drepan* "beat"
etan "eat"
geban "give"
-getan "achieve"
gedan "weed"
gehan "assure"
**klenan* "smear"
**knedan* "knead"
queðan **V** "say"
lesan "collect/read"

b) *biddian* "bid"
liggian "lie"

metan "measure"
-nesan "survive"
plegan "be responsible for"
sehan **V** "see"
**swekan* "smell"
tregan "deceive"
**weƀan* "weave"
wegan "move"
wesan **V** "be"
wrekan "pursue"

sittian "sit"

Class 6a) **bakan* "bake"
dragan "drag/draw"
faran "go/fare"
k(a)nagan "gnaw"
graban "dig"
hladan "load"
lahan **V** "rebuke"
**malan* "grind"
sakan "argue"

b) *heffian* **V** "lift"
hlahhian* **V "laugh"
-seffian **V** "perceive"

skaƀan "shave"
**skakan* "shake"
slahan **V** "beat"
spanan "tempt"
standan "stand"
thwahan **V** "wash"
wahan* **V "mention"
wahsan "grow"
**waskan* "wash"

skeppian "create"
**steppian* "step"
swerian "swear"

Class 7a) *bannan* "summon"
**blandan* "mix"
fallan "fall"
fāhan "catch"
gangan "go"
haldan "hold"

b) **brādan* "roast"
drādan "fear"
**grātan* "cry"
-hwātan "push"

c) *hētan* "(be) call(ed)"
-knēgan "know"

hāhan "hang"
skaldan "shove"
**skannan* "roar"
**spannan* "stretch"
waldan "wield"
wallan "well/roll"

lātan "let"
rādan "counsel"
sāian "sow"
slāpan "sleep"

skēdan "separate"
**swēpan* "swing"

d) *ōdan* "grant"
**ōkan* "increase"
**brōkan* "fashion form wood?"
flōkan "beat"
**hauwan* "hew"

?būan "live"

**hlōpan* "run/leap"
hrōpan "call"
stōtan "push"
swōgan "overwhelm"
wōpian "weep"

The corpus of strong verbs in the dialect of Old Saxon amounts to 210. A smaller number than that in Old English, larger than in Gothic, but as we shall see from the following table comparable to Old English in statistical spread throughout the classes. The lists have been compiled using GALLÉE (1910), HOLTHAUSEN (1885), RAUCH (1992) and, of course, checked according to SEEBOLD (1970).

	1	**2**	**3**	**4**	**5**	**6**	**7**
a)	40	24	21	11	20	18	12
b)		5	21		3	6	8
c)			6				4
d)							10
e)							1
Tot.	40	29	48	11	23	24	35
	(19.05%)	(13.81%)	(22.86%)	(5.24%)	(10.95%)	(11.43%)	(16.67%)

4.2.4 Old High German

Let us now continue with a look at the system as seen in the dialect Old High German.

Class 1

IE /ei/ > Gmc. /ī/, and IE /ai/ = Gmc. /ai/ > OHG /ei/. Before /r,h,w/ Gmc. /ai/ > OHG /ē/. Thus Class 1 has two sub-groups.

a) *trīban* "drive"	*treib*	*tribum*	*gitriban*
mīdan "avoid"	*meid*	*midum*	*gimidan*
b) *zīhan* "accuse"	*zēh*	*zigum*	*gizigan*
spīwan "spew"	*spē(o)*	*spiwum*	*gispiwan*

Class 2

Gmc./eu/ >OHG /eo/ (> /io/) before a following /a,e,o/. This change is however only complete in Franconian. In Upper German (Bavarian, Alemannic) /eu/ > /eo/ (/io/) only before dental or /h/ + /a,e,o/. Thus /eu/ > /iu/ elsewhere, i.e. before /i(j),u/, but in Upper German also before /a,e,o/ if a labial or velar (except /h/) stands between them.
Gmc. /au/ > OHG /ō/ before dentals and /h/, otherwise Gmc. /au/ > OHG /ou/.
Because of the treatment of Gmc. /eu/ a vowel change occurs in the present tense according to the vowel of the personal ending; this occurs in all Franconian verbs and in those Upper German verbs which have dental or /h/ between the stem-vowel and the vowel of the termination. The alternation is /eo/(/io/) : /iu/ and is caused by a following /i(j),u/. Gmc. /u/

> /o/ before /a,e,o/ of the following syllable otherwise remaining /u/. This accounts for the /o/ in the PP of this class against the /u/ of the preterite plural. Analogously to Class 1 one would expect /u/ in both.
There are some verbs which have /ū/ in the present tense, as with -*lūkan* in Gothic and *lūcan* and others in OE. As a result there are three sub-groups:

a) *liogan* "tell lies" (= Upper Ger. liugan)	*loug*	*lugum*	*gilogan*
kriochan "creep" (= UGer. *kriuchan*)	*krouch*	*kruchum*	*gikrochan*
b) *lūchan* "close"	*louch*	*luchum*	*gilochan*
c) *biotan* "offer"	*bōt*	*butum*	*gibotan*
-driozan "give"	*drōz*	*druzzum*	*gidrozzan*

Class 3

Gmc. /e/ > /i/ when followed by /i(j)/, which causes an alternation in the present tense in those verbs with /e/ in the infinitive. Also Gmc. /e/ > /i/ if followed by /n,m/ + Cons., from which there is a split into two groups. The change /u/ > /o/ before /a,e,o/ as above is stopped if a nasal + Cons stands between, this accounts for the differences in the PP vocalism.

a) *spinnan* "spin"	*spann*	*spunnum*	*gispunnan*
klimban "climb"	*klamb*	*klumbum*	*giklumban*
b) *melkan* "milk"	*malk*	*mulkum*	*gimolkan*
sterban "die"	*starb*	*sturbum*	*gistorban*

Class 4

Because the class is distinguished by the phonological environment of single resonant (nasal or liquid) the splits of Class 3 do not affect this class. Thus, Gmc. /e/ > OHG /e/ except before /i,j,u/ where > /i/, causing alternation in the present tense. /u/ > /o/ before /a,e,o/, giving a PP with /o/. Gmc. /ē/ > OHG /ā/.

stelan "steal"	*stal*	*stālum*	*gistolan*
neman "take"	*nam*	*nāmum*	*ginoman*

Class 5

Class 5 follows the phonological scheme set up for the previous classes, so that the infinitive shows /e/ and alternates with /i/ in the present tense according to the following vowel. Gmc. /ē/ > OHG /ā/. There are also some verbs which conjugate according to this class but which show an /i/ throughout the present. These are the *j*-presents which are suffixed present forms which lose the suffix in the other tenses. The suffix was *-j-* (< IE *-jo-*, cf. Lat. *cupiō* "desire"), and it effects mutation of a preceding /e/ > /i/. Thus we have two sub-groups:

a) *wegan* "weigh,move"	*wag*	*wāgum*	*giwegan*
sehan "see"	*sah*	*sāhum*	*gisehan*
b) *bitten* "ask"	*bat*	*bātum*	*gibetan*
liggen "lie"	*lag*	*lāgum*	*gilegan*

Class 6

Gmc. /a/ > OHG /a/. Gmc. /ō/ > OHG /uo/.
Here too there are some *j*-presents, these mutate the /a/ of the present to /e/. Thus two sub-groups:

a) *slahan* "slay"	*sluog*	*sluogum*	*gislagan*
wahsan "grow"	*wuohs*	*wuohsum*	*giwahsan*
b) *heffen* "lift"	*huob*	*huobum*	**gihaban*
swerien "swear"	*swuor*	*swuorum*	**giswaran*[14]

Class 7

As in OE, the class can be split into two sub-groups according to preterite vocalism. One group shows /ea,ia/ (< earliest OHG /ē/) which in late OHG > /ie/, the other /eo/ > /io/ which in late OHG also > /ie/. In the first of these groups belong those verbs whose present tense forms have stems in Gmc. /a/ + R, Gmc. /a/ + /i/ > OHG /ei/ and Gmc. /ē/ > OHG /ā/. The second group is made of those with stems in Gmc. /a/ + /u/ > OHG /ou/ or > /ō/ when before a dental or /h/, and those with Gmc. /ō/ > OHG /uo/. So two groups each with three sub-groups:

a)i) *spaltan* "split"	*spialt*	*spialtum*	*gispaltan*
gangan "go"	*giang*	*giangum*	*gigangan*
ii) *blāsan* "blow"	*blias*	*bliasum*	*giblāsan*
slāfan "sleep"	*sliaf*	*sliafum*	*gislāfan*
iii) *heizan* "call"	*hiaz*	*hiazum*	*giheizan*
sweifan "wind"	*swiaf*	*swiafum*	*gisweifan*
b)i) *loufan* "leap"	*liof*	*liofum*	*giloufan*
houwan "hew"	*hio*	*hiewan*	*gihouwan*
ii) *stōzan* "push"	*stioz*	*stiozum*	*gistōzan*
iii) *ruofan* "call"	*riof*	*riofan*	*giruofan*

So we can set up an OHG system comparable to that for Gothic in Table 3 thus:

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[14] In fact the PP is always *gisworan*.

Table 6: Old High German Ablaut System[15]

	Present	Pret 1	Pret 2	PP
1.a)	CīC	CeiC	CiC	CiC
b)	Cīr,h,w	Cēr,h,w	CiC	CiC
2.a)	CioC	CouC	CuC	CoC
	CiuC	CouC	CuC	CoC
b)	CūC	CouC	CuC	CuC
c)	CioD,h	CōD,h	CuD,h	CoD,h
3.a)	CiNC	CaNC	CuNC	CuNC
b)	CeLC	CaLC	CuLC	CoLC
4.	CeR	CaR	CāR	CoR
5.a)	CeC	CaC	CāC	CeC
b)	CiC	CaC	CāC	CeC
6.a)	CaC	CuoC	CuoC	CaC
b)	CeC	CuoC	CuoC	CaC
7.a)i)	CaRC	CiaRC	CiaRC	CaRC
ii)	CāC	CiaC	CiaC	CāC
iii)	CeiC	CiaC	CiaC	CeiC
b)i)	CouC	CioC	CioC	CouC
ii)	CōC	CioC	CioC	CōC
iii)	CuoC	CioC	CioC	CuoC

In the same way as Old English and Old Saxon, OHG differs from Gothic in that the seventh class verbs do not show reduplication (except for a few isolated and spurious examples) in the preterite. I shall now continue with a comprehensive list of the OHG strong verbs according to the scheme of Table 2.

Class 1a) *bītan* "wait"
bīzan "bite"
blīchan "shine"
flīzan "busy oneself"
glīzan "shine"
gnītan "rub"
grīfan "grab"
grīnan "cry/whimper"
hlīban "protect"
hnīgan "bow"
hrīnan "touch"
klīban "adhere"
kīnan "grow, bud"
-līban "remain"
līdan **V** "go,suffer"
scīnan "shine"
scīzan "shit"
scrīan "cry out"
scrīban "write"
scrītan "step"
sīgan "sink"
slīchan "creep"
slīfan "rub/slide"
slīzan "slice"
smīzan "smear"
snīdan **V** "cut"
stīgan "ascend"
strīchan "stroke"
strītan "fight"
swīchan "fail"

[15] D= Dental Consonant.

mīdan **V** "avoid"
rīban "rub"
**rīdan* "grow"
-rīhan **V** "cover"
-rīchan "conquer"
rīdan "twist/turn"
**-rīman* "count"
-rīsan "fall"
rītan "ride"
rīzan "rip"

swīdan "burn"
swīnan "disappear"
trīban "drive"
wīchan "yield"
wīfan "wind/twist"
**wīsan* "wilt"
wīsan "avoid"
wīzan "go"
-wīzan "reproach"

b) *dīhan* **V** "thrive"
līhan **V** "lend"
sīhan **V** "sieve"

snīwan "snow"
spīwan "spew"
zīhan **V** "accuse"

Class 2a) *biogan* "turn"
bliuwan "beat"
fliogan "fly"
**hiofan* "complain"
(h)riuwan "rue"
kiuwan "chew"
klioban "cleave/split"
kriochan "creep"
liochan "rip"

liogan "tell lies"
niuwan "pound/crush"
riochan "reek"
skioban "shove"
sliofan "slip"
**smiogan* "wrap around?"
stioban "scatter"
triofan "drip"
triogan "deceive"

b) *brūchan* "enjoy/use"
(h)rūzzan "snore"
lūchan "close"

sūfan "sup"
sūgan "suck
**tūchan* "dive"

c) *beotan* "offer"
**briodan* "decay"
diozan "roar"
driozan "give"
fliohan "flee"
fliozan "flow"
friosan **V** "freeze"
giozan "pour"
-griozan "rub"
(h)liozan "draw lots"
(h)niosan "sneeze"

-(h)neotan "fasten"
**hriosan* "fall"
kiosan **V** "choose"
-liotan "grow"
-liosan **V** "lose"
niozan "enjoy"
riozan "cry/weep"
siodan **V** "boil"
skiozan "shoot"
sliozan "shut"
ziohan **V** "pull"

Class 3a) *bintan* "bind"
bringan "bring"
brinnan "burn"
dinsan "pull"
dringan "press/urge"
findan **V** "find"
dwingan "force/push"
-ginnan "begin"
hinkan "limp"
(h)limman "roar"
klimban "climb"
crimman "rage"
krimman "scratch"
**crimman* "stuff"
krimpfan "cringe"

rimphan "sneer"
ringan "wring"
rinnan "run"
scrintan "burst"
singan "sing"
sinkan "sink"
sinnan "strive"
slingan "creep"
slintan "swallow"
spinnan "spin"
springan "jump"
**stingan* "sting"
stinkan "stink"
swimman "swim"
swingan "swing"

klingan "ring"
clingan "cling"
-lingan "succeed"
-linnan "stop"
limpfan "befall"
**nindan* "show courage"

swintan "disappear"
trinkan "drink"
-trinnan "separate"
winnan "labour"
wintan "twist"

b) *bergan* "protect"
belgan "grow angry"
bellan "bark"
-bellan "push away"
brestan "burst"
brettan "bend"
dreskan "thresh"
fehtan "fight"
felhan "order"
ferzen "fart"
flehtan "weave/wind"
gellan "sound"
geltan "pay"
helfan "help"
hellan "sound"
(h)respan "pluck"
(h)werban **V** "turn"
quellan "gush/flow"
kerran "creak/crackle"
-leskan "extinguish"
melkan "milk"
sceltan "chide"

scerran "scratch"
scellan "sound"
**selkan* "languish"
**serdan* "fuck"
smelzan "melt"
smerzan "smart"
-snerahan "swallow"
snerfan "shrink"
spurnan "tread"
sterban "die"
**sterkan* "grow numb"
swelhan **V** "swallow"
swellan "swell"
**swelzan* "die"
swerban "wipe"
telban "dig"
wellan "surge"
wellan "twist/turn"
werdan **V** "become"
werfan "throw"
werran "confuse"

Class 4 *beran* "bear"
brechan "break"
breman "mumble"
dweran "stir"
helan "conceal"
quelan "torment"
queran "sigh"
neman "take"
rechan "avenge"
sceran "shear"

sprechan "speak"
stechan "thrust/pierce"
stelan "steal"
**swelan* "burn"
sweran "swear"
trechan "pull"
treffan "meet"
twelan "be dumb/stunned"
zeman "befit"
zeran "rip"

Class 5a) *ezzan* "eat"
**fezzan* "fall"
fnehan "breathe"
phlegan "care for"
-fehan "rejoice"
**fregnan* "ask"
geban "give"
jehan/gehan "say"
jesan/gesan "ferment"
jetan/getan "weed"
-gezzan "acquire"
klenan "smear"
knetan "knead"
kresan "creep"
quedan **V** "say"
queman "come"

lesan **V** "read"
mezzan "measure"
nesan "be saved"
**rechan* "rake"
redan "sieve"
sehan "see"
-skehan "happen"
-stredan "boil up"
swechan "swell"
**swedan* "smoulder"
tretan "tread"
weban "weave"
wegan "weigh/move"
wehan "overcome"
**wesan* "indulge"
wesan **V** "be"

lechan "leak"

wetan "bind"

b) *bitten* "ask"
liggen "lie"

sitzen "sit"

Class 6a) *bachan* "bake"
dwahan **V** "wash"
faran "go"
galan "sing"
gnagan "gnaw"
graban "dig"
**hagan* "tend"
(h)ladan "load"
laffan "lick"
lahan **V** "chide"
malan "grind"

sachan "fight"
skaban "shave"
slahan **V** "slay"
snachan "crawl"
spanan "lure"
stantan "stand"
tragan "carry/wear"
-wahan* **V "mention"
wahsan "grow"
waskan "wash"
watan "wade"

b) **hlahhen* "laugh"
heffen **V** "lift"
-sebben "find"

skepfen "create"
**stepfen* "step"
swerien "swear"

Class 7a)i) *bannan* "ban"
blantan "mix"
erren "plough"
fāhan **V** "catch"
**falgan* "bend"
faldan "fold"
fallan "fall"
**falzan* "beat"
gangan "go"
hāhan **V** "hang"

haltan "hold"
salzan "salt"
scaltan "push"
spaltan "split"
spannan "stretch"
**walkan* "pummel"
wallan "boil"
waltan "weald"
walzan "turn/twist"

ii) *bāgan* "fight"
**blāhan* "blow"
blāsan "blow"
brātan "roast"
-(h)wāzan "curse"
lāzan "let"

**rāchan* "devote o.s."
rātan "advise"
slāfan "sleep"
sāan "sow"
-trātan "fear"
**wāzan* "blow"

iii) *eichan* "vindicate"
heizan "(be) call(ed)"
meizan "cut"

skeidan "separate"
sweifan "wind"
zeisan "pluck"

b)i) *houwan* "hew"
loufan "leap"

ouchan "increase"
**tougan* "hide"

ii) *bōzan* "push"
**lōwan* "low"

scrōtan "cut"
stōzan "push"

iii) *bluozan* "sacrifice"
fluochan "curse"
(h)ruofan "call"

**ruozzan* "dig,burrow"
wuofan "cry out"

c) *būan* "live"

**nūan* "rub"

For OHG, which has a much larger corpus of texts than Gothic but similar to OE, the outer limit of possible strong verbs according to my reckoning is 322. The core of verbs is well attested although there are still a few little used verbs which occur only rarely; the inclusion of some verbs in the list is also a result of comparison with the other dialects. The list, in essence, is based on the treatment of the strong verb system found in BRAUNE (1987) and checked against the data in SEEBOLD (1970) which is used as a control for all the dialects under consideration. The 322 verbs of OHG are distributed across the classes as follows:

	1	2	3	4	5	6	7
a)	49	18	41	20	34	22	19
b)	6	6	43		3	6	12
c)		22					6
d)							4
e)							4
f)							5
g)							2
	55	46	84	20	37	28	52
	(17.08%)	(14.29%)	(26.09%)	(6.21%)	(11.49%)	(8.7%)	(16.15%)

4.2.5 Old Norse

The next system to be described is that of Old Norse. Unlike OE and OHG which are roughly contemporaneous, ON's "high" period begins just as OE and OHG come to an end and develop the stages Middle English (ME) and Middle High German (MHG). ON is, however, interesting for comparative purposes in a number of areas, not least for its treatment of the verba pura with their interesting *-er-* element, which has fed theories trying to explain /ē²/ through a development out of earlier reduplicated forms.

Class 1

ON *í* = OHG /ī/ < Gmc. /ei/[16] . Otherwise as for OHG; except that *bíða* "wait" has the unexpected PP *beðinn* rather than **biðinn*. In forms in which /g/ or /d/ were final, they became unvoiced /h/ or /t/. Before an /h/, /i/ and /ī/ > /ē/ and /u/ or /au/ > /ō/; and by the literary period final /h/ had been lost. Thus this class has a few verbs with /ē/ instead of /ei/ in the preterite singular.

a) *drífa* "drive"	*dreif*	*drifum*	*drifinn*
sníða "cut"	*sneið*	*sniðum*	*sniðinn*
b) *hníga* "bow"	*hné*	*hnigum*	*hniginn*
stíga "climb"	*sté*	*stigum*	*stiginn*

16 In ON editions long vowels are marked with an acute accent, a practice I shall also adopt; phonemes, of course, will still be shown using macrons as heretofore.

Class 2

Gmc. /eu/ > PreN. /ēo/ before dental consonants (/d,t, , l,n,s/) and /m/. /ēo/ > /jō/, /ēu/ > /jū/. "Icelandic combinations of j followed by a vowel (so-called rising diphthongs) arose by the shifting of stress from the first element to the second of original falling diphthongs" (GORDON 1990, §46, 275).
/au/+/g/ > /au/+/h/ > /ō/. In the PP /u/ > /o/ before /a/ of original *-*anaR*[17] (= participle suffix *-*enos* of Pre-Norse, which corresponds to IE *-*enos*). *-*anaR* > *enn* later written *-inn*. Unaccented /a/ before /n/+Cons. > /e/ (> /i/). As in Go., OE and OHG some verbs in this class exhibit /ū/ (= Gmc. /eu/ > /ū/) in the infinitive which shows parallelism with the development of Class 1 Gmc. /ei/ > /ī/ seen in OE and OHG and assumed for Go.

a) *fjúka* "push"	*fauk*	*fukum*	*fokinn*
kljúfa "split"	*klauf*	*klufum*	*klofinn*
b) *lúka* "lock/finish"	*lauk*	*lukum*	*lokinn*
lúta "bow/bend"	*laut*	*lutum*	*lotinn*
c) *bjóða* "offer"	*bauð*	*buðum*	*boðinn*
kjósa "choose"	*kaus*	*kusum*	*kosinn*
		(kurum)	*(korinn)*
d) *fljúga* "fly"	*fló*	*flugum*	*floginn*
smjúga "creep"	*smó*	*smugum*	*smoginn*

Those of type d) (except *fljúga*), like Class 1 verbs of the same type, have analogous re-formations of their preterite singular forms, so beside *smó* also *smaug*.

Class 3

/u/ > /o/ like Class 2 in the PP. /e/ > /ja/ in those verbs with *g-* or *sk-*, cf. fracture in OE verbs with palatal glides (*giellan*, *scieran*) but cf. ON *hjalpa* and *bjarga* which do not seem to fit in with this. On this point, NOREEN (1884), however, has breaking occurring because of the following syllable. He calls this "a-Brechung", but it does not take place if an /l,r,v/ immediately precedes the fractured vowel [only /e/ can admit fracture]. GORDON lists both explanations, but openly subscribes to a-Brechung rather than palatal glides. Whichever, *bjarga* is difficult to reconcile with palatal glides, and *detta* seems to defy the theory of a-Brechung.
/e/ > /i/ and /o/ > /u/ before a nasal + Cons. If Cons = /p,t,k/ then the nasal is assimilated and the vowel is lowered to /e/ or /o/ respectively. /l / > /ll/ and /n / > /nn/ vs. /l / > /ld/ and /n / > /nd/, so that in *finna* there is grammatical change :- *finna*, *fann*, *fundum*, *fundinn*. I think the most useful division for Class 3 is to distinguish between those verbs which take a /u/ in the PP (mostly those with nasal following the root vowel) and those which take /o/ (mostly those with liquid following the root vowel). Historically this class is the one with verbs which have either nasal or liquid following the root vowel, but as in OE and OHG there are some verbs which have encroached on the class or which have lost or assimilated their nasal/liquids. I shall sub-divide the class according to the present vocalism and again according to phonological environment. This may make the class unnecessarily opaque but nevertheless can show some coherence. Thus:

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17 **R** = /r/ < /z/ < /s/

a)i) *binda* "bind"	*batt*	*bundum*	*bundinn*
spinna "spin"	*spann*	*spunnum*	*spunninn*
springa "burst"	*sprakk*	*sprungum*	*sprunginn*
ii.i) *brenna* "burn"	*brann*	*brunnum*	*brunninn*
ii.ii) *bregða* "rush"	*brá*	*brugðum*	*brugðinn*
iii) *slyngva* "throw"	*slong*	*slungum*	*slunginn*
þryngva "press"	*þrong*	*þrungum*	*þrunginn*
b)i.i) *bella* "hit"	*ball*	**bullum*	**bollinn*
snerta "touch"	*snart*	*snurtum*	*snortinn*
i.ii) *detta* "drop"	*datt*	*duttum*	*dottinn*
spretta "jump"	*spratt*	*spruttum*	*sprottinn*
ii) *gjalda* "pay"	*gald*	*guldum*	*goldinn*
bjarga "protect"	*barg*	*burgum*	*borginn*
iii) *hrøkkva* "fall"	*hrokk*	*hrukkum*	*hrokkinn*

Class 4

/u/ > /o/ before /a/ of PP suffix (**-anaR*), cf. classes 2 and 3. Through the combined influence of a preceding labial consonant (here /v/) /ā/ > /ō/ when followed by /u/. Thus preterite plurals of *koma*, *sofa*, *vefa* have forms with *vá* and *ó*. The class therefore consists of one paradigm with individual peculiarities as shown below:

bera "bear"	*bar*	*bárum*	*borinn*
stela "steal"	*stal*	*stálum*	*stolinn*

but:

nema "take"	*nam*	*námum*	*numinn*
koma "come"	*kvam/kom*	*kvámum/kómum*	*kominn*
troða "step"	*trað*	*tráðum*	*troðinn*
sofa "sleep"	*svaf*	*sváfum/ sófum*	*sofinn*
vefa "weave"	*vaf/óf*	*váfum/ ófum*	*ofinn*

Class 5

As in Classes 1 and 2 final /g,d/ > /h(>Ø),t/. Loss of /h/ leading to lengthening of preceding vowel. Some irregularities: *eta* "eat" (cf. OHG, OE, Go.) and *sjá* "see", the latter as a contracted form. As in the other dialects there are some *j*-presents with /i/ in the present tense.

a) *drepa* "slay"	*drap*	*drápum*	*drepinn*
geta "get"	*gat*	*gátum*	*getinn*
b) *biðja* "ask"	*bað*	*báðum*	*beðinn*
liggja "lie"	*lá*	*lágum*	*leginn*

Class 6

This group adheres well to the Gmc. pattern, but for one phonological development. Those verbs whose stem ends in a velar show /e/ in the PP rather than the usual /a/. There are also a number of *j*-presents with umlaut in the present tense, i.e. /e/ or /ē/ > /ø/ before /y/.

a) *mala* "grind"	*mól*	*mólum*	*malinn*
vaða "wade"	*óð*	*óðum*	*vaðinn*
b) *draga* "drag"	*dró*	*drógum*	*dreginn*
slá[18] "slay"	*sló*	*slógum*	*sleginn*
c) *sverja* "swear"	*sór*	*sórum*	*svarinn*
hefja "lift"	*hóf*	*hófum*	*hafinn*
døyja "die"	*dó*	*dóm*	*dáinn*

Class 7

This class is in ON traditionally divided into three groups according to preterite vocalism. As in OE there is a split between those verbs which have /é/ (or /e/ before two consonants) and those with /jō/ < /eo/ (= OE /ēo/). In addition there is a group of verbs which appear to have an *-er-* infix inserted between initial consonant cluster and the termination which for these verbs follows the weak conjugation. The interpretation of this infix and its significance will be discussed later, suffice it to say here that it is often seen as a remnant of the 7th class reduplication in evidence in Gothic.

a)i) *falla* "fall"	*fell*	*fellum*	*fallinn*
blanda "mix"	*blett*	*blendum*	*blandinn*
ii) *láta* "let"	*lét*	*létum*	*látinn*
iii) *heita* "call"	*hét*	*hétum*	*heitinn*
iv) *blóta* "sacrifice"	*blét*	*blétum*	*blótinn*
b)i) *ausa* "create"	*jós*	*jósum/ jusum*	*ausinn*
hlaupa "leap"	*hljóp*	*hljópum/ hlupum*	*hlaupinn*
ii) *høggva* "hew"	*hjó*	*hjoggu/ hjuggu*	*høggvinn*
iii) *búa* "live (in)"	*bjó*	*bjoggum/ bjuggum*	*búinn*
c) *sá* "sow"	*sera*	*serum*	*sáinn*
snúa "turn"	*snera*	*snerum*	*snúinn*
róa "row"	*rera*	*rerum*	*róinn*

18 < **slaha*

Once again I shall attempt a redefinition for Old Norse of Table 2, showing the Germanic verbal system.

Table 7: Old Norse Ablaut System

	Present	Pret 1	Pret 2	PP
1.a)	CīC	CeiC	CiC	CiC
b)	Cīg	Cé	Cig	Cig
2.a)	CjūC	CauC	CuC	CoC
b)	CjōD	CauD	CuD	CoD
c)	CūC	CauC	CuC	CoC
d)	Cjūg	Cjō	Cug	Cog
3.a)i)	CiNC	CaNC	CuNC	CuNC
ii)	CeCC	CaCC	CuCC	CuCC
iii)	CyNCv	CoNC	CuNC	CuNC
b)i)	CeCC[19]	CaCC	CuCC	CoCC
ii)	CjaLC	CalC	CuLC	CoLC
iii)	CøCCv	CoCC	CuCC	CoCC
4.	CeR	CaR	CāR	CoR
	(CoC	CaC	CāC	CoC
		CoC	CōC	
	nem	nam	nám	num)
5.a)	CeC	CaC	CāC	CeC
b)	CiCj	CaC	CāC	CeC
	Cigj	Cá	Cāg	Ceg
6.a)	CaC	CōC	CōC	CaC
b)	Cak	Cōk	Cōk	Cek
	Cag	Cō	Cōg	Ceg
c)	CeCj	CōC	CōC	CaC
	Cøyj	Cō	Cō	Ca-
7.a)i)	CaCC	CeCC	CeCC	CaCC
ii)	CāC	CēC	CēC	CāC
iii)	CeiC	CēC	CēC	CeiC
iv)	CōC	CēC	CēC	CōC
b)i)	CauC	CjōC	CjōC	CauC
ii)	Cøggv	Cjō	Cjōgg	Cøggv
iii)	Cū-	Cjō	Cjōgg	Cū-
c)	Cā-	Cer-	Cer-	Cā-
	Cō-	Cer-	Cer-	Cō-
	Cū-	Cer-	Cer-	Cū-

19 The first C cannot be a nasal.

This system is yet more intricate than that of OE and OHG; but then Old Norse is a dialect whose high period is three maybe four hundred years after that of OE and OHG; so one would expect the phonology to have developed that little bit more.

Once again I shall give a comprehensive list of strong verbs extant in the Old Norse Classical language, categorized according to the seven class system; however great the vacillation of verbs between classes.

Class 1a)	*bíða* "wait"	*ríða* "ride"
	bíta "bite"	*ríða* "turn/twist"
	blífa "remain"	*rífa* "tear"
	blíkja "glimmer"	*rísa* "rise"
	drífa "drive"	*rísta* "slit"
	dríta "shit"	*ríta* "write"
	fisa "fart"	*síða* "charm/cast spells"
	gína "yawn"	*skína* "shine"
	grípa "grip"	*skíta* "shit"
	hlífa "protect"	*skríða* "step"
	hníta "push"	*slíta* "slit"
	**hnípa* "bend"	*sníða* "cut"
	hrífa "grip"	*sníva* "snow"
	hrína "touch"	*svífa* "sway"
	hrína "scream"	*svíkja* "deceive"
	hvína "whistle/hiss"	*svíða* "singe"
	klífa "cleave/climb"	*tjá* "show"
	**kvíða* "fear"	*þrífa* "grasp/thrive"
	líða "go"	*víkja* "move/turn"
	líta "see"	**vísa* "wilt"
	ljá "lend"	
b)	*hníga* "bow"	*síga* "sink
	míga "piss"	*stíga* "climb"
Class 2a)	**djúfa* "cripple"	*krjúpa* "creep"
	drjúpa "drip"	*rjúfa* "break"
	fjúka "push"	*rjúka* "reek"
	kljúfa "cleave/split"	*strjúka* "stroke"
b)	*bjóða* "offer/command"	*hrjóta* "snore"
	brjóta "break/destroy"	*kjósa* **V** "choose"
	fljóta "float/flow"	*ljósta* "hit"
	frjósa **V** "freeze"	*ljóða* "grow"
	gjósa "bubble"	*njóta* "enjoy"
	gjóta "pour"	*rjóða* "redden"
	hljóta "receive"	*rjóta* "cry"
	hnjósa "sneeze"	**rjóta* "rot"
	**hnjóða* "beat"	*sjóða* "boil"
	**hrjúfa* ?[20]	*skjóta* "shoot"
	hrjóða "clear"	**snjóða* "bare?"
	**hrjóða* "adorn"	*þjóta* "resound"

[20] See Appendix 7.2.2.

hrjósa "shudder"
hrjóta "push"

þrjóta "fail"

c) *dúfa* "dive"
húka "cower"
lúka "finish/lock"

lúta "bow/bend"
stúpa "jut out"
súpa "sup"

d) *fljúga* "fly"
**bjúga* "bend"
**brjúga* "brew"

ljúga "tell lies"
smjúga "creep"
**tjúga* "stretch"

súga "suck"

gyggva "shock"
hnøggva "push"

tyggva "chew"

flyja "flee"
**lyja* "push"

spyja "spew"

Class 3a)i) *binda* "bind"
finna **V** "find"
**hlimma* "sound"
hrinda "push"
**slinta* "slide"
spinna "spin"

springa "burst"
stinga "thrust"
svimma "swim"
vinda "twist"
vinna "work/win"

ii) *brenna* "burn"

renna "run"

bregða "move quickly"

drekka "drink"

iii) *slyngva* "throw"
syngva "sing"

þryngva "press"

b)i) **belga* "swell"
bella "hit"
freta "fart"
**gnella* "cry"
hverfa "turn"
**hvelfa* "curve"
serða "sodomize/bugger"
**skerpa* "shrink"
**snerka* "shrink"
snerta "touch"
**sporna* "step"

**sterka* "stiffen"
svelga "swallow"
svella "swell"
svelta "starve"
sverfa "file/polish"
vella "boil"
velta "roll"
verða "happen/come"
verpa "throw"
þverra "diminish"

bresta "burst"
detta "drop"
gnesta "crash/crack"
**kreppa* "shrink"
kretta "murmer"

**reska* "grow"
skreppa "slip"
sleppa "slide"
spretta "jump"

ii) *bjarga* "protect"
gjalda "pay"
gjalla "bellow"

hjalpa "help"
skjálfa "shake"
skjalla "sound"

iii) *hrøkkva* "fall back" *støkkva* "spring"
kløkkva "groan" *søkkva* "sink"
røkkva "darken"

Class 4 *bera* "bear" *skera* "cut"
fela **V** "hide" *stela* "steal"
nema "take" *vefa* "weave"

koma "come" *troða* "step"
sofa "sleep"
**sløkkva* "extinguish"

Class 5a) *drepa* "slay" *leka* "leak"
eta "eat" *lesa* "read/gather"
feta "step" *meta* "estimate/value"
fregna "learn/ask" *reka* "drive"
gefa "give" *trega* "deceive"
geta "get" *vega* "lift/move"
hvika "sway" *vega* "fight"
kveða "say" *vera/vesa* **V** "be"

sjá "see" **já* "assure"

b) *biðja* "ask" *sitja* "sit"
liggja "lie" *þiggja* "receive"

Class 6a) *ala* "nourish" *mala* "grind"
fara "travel/go" *skafa* "scrape"
gala "sing" *standa* "stand"
grafa "dig" *vaða* "wade
hlaða "load" **vakna* "wake"
**hnafa* "cut off" *vaxa* "grow"
kala "freeze"

b) *aka* "go" *slá* "slay"
draga "drag" *taka* "take"
flá "flay" *þvá* "wash"
gnaga "gnaw" **þraka* "endure?"
skaka "shake" *klá* "rub"

c) *døyja/deyja* "die" *kefja* "supress"
gøyja/geyja "bark" *skepia* "shape/create"
hefja "lift" *sverja* "swear"
hlæja "laugh"

Class 7a)i) **alþa* "age" *ganga* "go"
blanda "mix" *halda* "hold"
falla "fall" *hanga* "hang"
falda "fold" *valda* "subject"
fá "receive"

ii) *blása* "blow" *kná* "be able"

	gráta "weep"	*láta* "let"
	hváta "pierce"	*ráða* "advise"
iii)	**eika* "rush"	*leika* "play"
	heita "call/be called"	*sveipa* "swing"
iv)	*blóta* "sacrifice"	**flóka* "beat?"
b)i)	*auka* "increase"	*bauta* "beat"
	ausa "create"	*hlaupa* "leap"
	**auða* "grant"	
ii)	*hoggva* "hew"	
iii)	*búa* "live/inhabit"	**fúa* "rot"
c)	*sá* "sow"	
	gnúa/(bnúa?) "rub"	*snúa* "turn"
	gróa "grow"	*sóa* "sacrifice"
	róa "row"	

At its extreme, including the relic forms as possible indicators of earlier lost strong forms, the number of ON strong verbs amounts to 256, of which around 30 are extant in perhaps one tense only. The distribution among the classes is as shown in the table below. The list of verbs has been compiled with the help of NOREEN (1884), FRITZNER (1954) , JÓNSON (1913-16) ZOËGA (1926) and, of course, SEEBOLD (1970).

	1	**2**	**3**	**4**	**5**	**6**	**7**
a)	41	8	11	10	18	13	9
b)	4	27	4		4	10	6
c)		6	3			7	4
d)		13	30				2
e)			6				5
f)			5				1
g)							2
h)							6
	45	54	59	10	22	30	35
	(17.58%)	(21.09%)	(23.05%)	(3.9%)	(8.59%)	(11.72%)	(13.67%)

4.3 Germanic Ablaut: Summary and Statistical Evaluation

To begin with, it would be useful and perhaps interesting to collate the statistical information gathered in the preceding sections in regard to the number of verbs belonging to, or rather showing the alternations of, the individual classes. We may as a result be able to say something about the nature of Germanic ablaut and respective spread and influence in each of the dialects.

The following table lists the numbers of verbs in each class of each dialect and compares the percentage equivalents of these figures:

Table 8: Statistical Data on the Germanic Ablaut System

	Gothic	**OE**	**OS**	**OHG**	**ON**	Mean
Total Strong Verbs	169	341	210	322	256	
Class 1: Total	25	62	40	55	45	
%	14.79	18.18	19.05	17.08	17.58	17.34
Class 2: Total	20	55	29	46	54	
%	11.83	16.13	13.81	14.29	21.09	15.43
Class 3: Total	32	90	48	84	59	
%	18.93	26.39	22.86	26.09	23.05	23.46
Class 4: Total	9	14	11	20	10	
%	5.33	4.11	5.24	6.21	3.9	4.96
Class 5: Total	23	28	23	37	22	
%	13.61	8.21	10.95	11.49	8.59	10.57
Class 6: Total	22	30	24	28	30	
%	13.02	8.8	11.43	8.7	11.72	10.73
Class 7: Total	38	62	35	52	35	
%	22.49	18.18	16.67	16.15	13.67	17.43
Classes 1-3: %	45.55	60.7	55.72	57.46	61.73	56.23
Classes 4 & 5: %	18.94	12.32	16.19	17.7	12.49	15.53
Classes 1-5: %	64.49	73.02	71.91	75.16	74.22	71.76
Classes 6 & 7: %	35.51	26.98	28.1	24.85	25.39	28.17

Despite this table appearing to be a blur of meaningless figures, it does tell us some interesting facts which are pertinent to the investigation in hand. Excepting the difficulties of Gothic, it is remarkable how consistent the percentages of verbs belonging to specific classes are across the dialects. Class 2 is the least consistent, Old Norse containing a larger number of verbs than the other dialects. Gothic remains difficult in such an assessment because of the paucity of linguistic evidence from Gothic. One large text is clearly not enough data upon which to base statistical tests; but the other dialects hold up well to such scrutiny. What the Gothic evidence might suggest is the token frequency of certain classes over others. If it were possible and legitimate to speak of the Gothic evidence as being in any way a

representive source then we might use the figures as a guide to the relative frequency of certain classes in a specific language. The figures from the other dialects can only show, because the data is drawn from the whole corpus of linguistic evidence, the totals of verbs in each class without necessarily making statements about the relative frequency of individual verbs and classes. The footnotes to individual verbs in Appendix **7.2** detail the occurrence of the verbs in regard to whether they are evidenced in certain tenses; but this is also a terribly imprecise guide to actual frequency, merely pointing at possibilities. Some verbs, through semantic criteria, may be more likely to occur in one tense than in another.

One thing we can see from the above table is that the number of verbs with *e*-vocalism (Classes 1-5) by far outstrips the number of verbs with *a*-vocalism (Classes 6 & 7)[21]. *E*-verbs outnumber *a*-verbs by 5:2, a coincidentally neat ratio, considering there are five *e*-classes and two *a*-classes. The following chapter will seek, among other things, to establish the nature of the *a*-verbs and their alternation patterns. The fact that they are in the minority when set against ablauting verbs as a whole, would seem to speak in favour of their difficult status in the Germanic system and questions any assumption that the sixth and seventh class alternations reflect IE models. It is after all the seventh class which in Gothic rejects for the most part any ablaut alternation; and the alternation it does show in a handful of verbs is not one which is found elsewhere in Germanic for this class. And yet the use of reduplication in Gothic has quite clear parallels in Indo-European, as the excursus will show.

With regard to the internal coherence of the individual classes in the five dialects under scrutiny here, we see that the earliest dialect presents the least complex system (Gothic: Table 3) and the latest dialect the most complex (Old Norse: Table 7). This is hardly surprising considering the relative stages of development of the dialects from the period of common Germanic. The increased complexity of the various systems is due in the main to language internal developments in the phonology, as has been explained in the introductions to each of the classes. The greatest problem of the whole system is to account for the difference in the seventh class between Gothic on the one hand and all the others on the other. What this chapter has done is present all the necessary information about the systematic nature of ablaut use in the Germanic languages; in addition, however, there are some isolated forms which undermine the relative systematicity outlined above. These problematic forms are concerned for the most part with possible evidence of reduplicated forms in dialects other than Gothic. These will be dealt with in the reduplication excursus in

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21 That verbs with infinitives in /ē/ and /ō/ conjugate in Gothic using reduplication and thus are placed in class seven is problematic for a split between verbs in /e/ and verbs in /a/. However, that they clearly do not follow, as we shall see, the IE pattern, but reduplicate or show Class 7 ablaut means they were problematic in the early dialects too. As we shall see in Chapter 5, the ablaut patterns at work in Classes 1-5 are in essence based around the same principle in contrast to Classes 6 and 7, the "*a*-verbs". This allows me to group verbs with /ē/ and /ō/ alongside those verbs with /a/.

chapter 5. They have no place in this chapter, whose object was to highlight how systematic the Germanic ablaut system is, in contrast to the IE system discussed in Chapter 3. The differences between Chapters 3 and 4 will be made more stark in the following chapter, though in that chapter too similarities will be stressed.

5. The Problematics of Germanic

5.1 Introductory

Having discussed and described in detail the verbal ablaut systems of Indo-European (in the guise of Greek and Sanskrit) and Germanic in isolation, it is now time to pick out what is common, and what is not, to the two. From a comparison of the two we will be in a better position to ascertain the degree of innovation or conservatism of verbal morphology in Germanic. In doing so, we will also be able to further the debate on such difficult and stubborn questions of early Germanic morphonology as the status of reduplication and the genesis of the uniquely Germanic vowel segment labelled $\bar{e}^2$.

This chapter will progress, to begin with, through the verbal classes of Germanic in their traditional order. Since Germanic is the principal subject of the thesis, it seems appropriate to arrange the information and debate from the perspective of Germanic, relating it back to pre-existing forms. The look at Class 7 will be punctuated by an excursus dealing with the phenomenon of reduplication. Not strictly an ablaut problem, reduplication, as was seen in the preceding chapter, plays a major role in the morphology of strong verbs in Gothic and thereby has an effect on the classification in the other dialects. I find it necessary to impose some kind of regimentation on a subject which otherwise can become too amorphous and out of control. The nature of the subject entails a thematic inter-relatedness to an extent where it becomes difficult to separate single points of discussion without recourse to others which are equally pertinent.

5.1.1 Comparativist reservations

A grave and serious reservation to be considered at this point is the fact that a comparison of the information at hand is a contrived comparison which seemingly overlooks the periodizational incomparability of the sets of data. The system I have set up for Indo-European is based on information from languages which pre-date the earliest information from Germanic by many hundreds of years. Our knowledge of Greek, for example, is chiefly derived from the literature written from 600 - 400 BC by writers such as Aeschylus, Herodotus, Thucydides and Sophocles among many others, and the grammatical knowledge we possess of early Indian is derived from the important codification of Sanskrit by Pānini in the fourth century BC[1], although the greater bulk of Sanskrit texts stems from a much later period. For Germanic, our earliest records, in Gothic, are from the 4th century AD, 600 years after Pānini, and for OHG and OE the date is the 7th century AD. This means, therefore, to compare Indo-European with Germanic as I have proposed is to ignore the fact that the two are not in any way contemporary. I am not comparing like with like. The two

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1 "The date of Pānini is most commonly fixed in the fourth century BC which is in accordance with the native tradition which connects him with the Nanda king of Magadha". (BURROW, 1955, 48)

reflect different stages of different languages. In this sense it might be argued that I fall foul of the criticisms of STUTTERHEIM (1960, 240):

> It is *incorrect* to attribute to a word in a certain language characteristics which it had originally, in its earliest-known phase, i.e. when it was a *different* word in a *different* language.

I hope I am not guilty of this transgression, and I hope that I make the reader aware of the problem. But, the two systems do show signs of common heritage, and it is these I shall be investigating, fully aware that I must be circumspect in my analyses of non-synchronic data.

A further incompatibility to be aware of in a comparison of Germanic and Indo-European is the different morphological categories exhibited by the verbal system. It is all very well my drawing out correspondences in the morphonology of the two systems, but this is a vain and empty exercise if I do not take into consideration the fact that the two systems reflect different morphological taxonomies. For example, Greek has as many as seven tenses (present, imperfect, future, aorist, perfect, pluperfect and future perfect), three voices (active, middle, passive) and four moods (indicative, subjunctive, optative and imperative); Sanskrit has the possibility of seven tenses too (present, imperfect, future, conditional, perfect, a rare pluperfect and an aorist), two voices (parasmaipada "word for another" [= active] and ātmanepada "word for oneself" [=middle])[2] and there are perhaps as many as six moods (indicative, injunctive, subjunctive, optative, imperative and precative)[3] . This seeming complexity of categories is not reflected in the Germanic morphological system for verbs. Gothic, for example, has only two synthetic tenses (present and preterite), all other temporal distinctions being made through auxiliary periphrasis or the use of temporal adverbs. Gothic has only three moods (indicative, imperative and subjunctive/optative[4]) and two voices

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[2] The exact delineation between active and middle in Sanskrit is not terribly clear cut. Some verbs only appear in one or other and others show a change in voice between tenses without any change of meaning. As COULSON (1992, 133) writes: "... *yajati* "sacrifices" [parasmaipada] is used of the officiating priest [...], while *yajate* "sacrifices" [ātmanepada] is used of the one for whose benefit the sacrifice is being made. But except in a few instances like this, the underlying implication is so blurred that it is not worth pursuing. It must rather be taken as a fact of the language that some verbs are found only in parasmaipada, a few only in ātmanepada, and some show both sets of forms with little evident distinction of meaning."

[3] These moods require some explanation. Indicative is the default mood, as it were. The injunctive, in form, is like an unaugmented imperfect or aorist (for its uses consult chapter 2 footnote 32). The imperative has distinct forms only in 2nd and 3rd sing. and 3rd pl.; other forms are derived from the injunctive. The subjunctive likewise derives from a particular injunctive, and so corresponds in usage to that of the injunctive, in addition the subjunctive is widely used in subordinate clauses (hence the name of the mood). The optative is formed using a suffix *yā/ī* and is used in the expression of a wish, later also denoting potentiality and prescription, esp. in formal or legal contexts. The precative is also used to express wishes and it is formed by the addition of the suffix *yās/īs*, i.e. the optative suffix with an additional *s*.

[4] The form of the Gothic (and indeed Germanic) subjunctive is inherited from the IE optative although the uses of the Germanic subjunctive are more akin to the IE subjunctive, for example in its role in subordinate clauses.

(active and medio-passive[5]) although the other Germanic dialects have only a synthetic active voice.[6] Thus the small number of forms in Germanic must do duty for a whole range of forms in the other two languages. This is not, of course, a problem. Languages cope perfectly well at expressing all situations whether or not they possess the morphological apparatus to carry them out synthetically. But, for this investigation, it is important to remember that the forms I am comparing are representatives of different morphological categories. The Germanic preterite does not cover the same morphological domain as the IE perfect, from whose tense the majority of forms for comparison will be taken. Of course, the question then arises as to the relationship in which the Germanic preterite and the IE perfect stand to each other? That their forms, as we shall see later on, are easily identified as sharing some qualities implies that in function too the two tenses have a common ancestry. It would be easy to say that in Germanic all of the IE past tenses were conflated into the preterite, thus making the Germanic preterite the descendant for all past-tense morphological categories in Indo-European. But, as I have pointed out, this way of looking at things assumes that Germanic is a daughter of the extrapolated IE system here, which is not necessarily the case. From the data given here all we can say is that Germanic is a part of the system called Indo-European, but shows a stage of Indo-European later than that which we have for Greek and Sanskrit. Germanic does not necessarily derive from stages evidenced by Greek or Sanskrit. The most we can say is that Greek and Sanskrit are together indicators of what a collective IE stratum might be like, a stratum for which these two languages represent some of the earliest evidence. Germanic is likewise evidence for Indo-European, but from a later stage. Both sets of data, Greek/Sanskrit and Germanic, are equally important in establishing what Proto-Indo-European might have been like, and thus in establishing the morphological and phonological trends which represent the essence of Indo-European. That the two sets of data are from different periods, however, allows for much further development in the case of Germanic, development which this branch might have undergone in isolation. This development is the object of this thesis, in as much as it can be abstracted from its necessary and undeniable relationship with earlier IE forms and categories.

The upshot of this, then, is that the Germanic preterite exhibits traits that we see earlier in a variety of IE tenses, and it is used in contexts which, in Greek/Sanskrit, would have been undertaken by different morphological tenses. In this sense it, the Germanic preterite, fulfils the role of a set of IE tenses in a set of particular contexts, but to say that the Germanic preterite is a concoction of three IE tenses is misleading and interprets the data with a skewed perspective. Although Germanic is part of the IE family it is nonetheless a separate

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5 The Gothic medio-passive is found only in the indicative and subjunctive of the present tense.

6 ON appears to have a middle but this is in effect a conflation of the verb and the reflexive participle, and so not, in terms of its IE heritage, a synthetic voice.

branch which may or may not follow the trends noted for earlier stages of the group. However, as we saw in **3.4.1**, the Latin perfect also shows formations which can be traced back to both the IE (Greek/Sanskrit) aorist and perfect, which would seem to corroborate a Germanic position which also saw conflation of two tenses in the preterite. This might substantiate a claim for later languages simplifying and assimilating formations from a proto-language. In the case of Indo-European this is problematic. It is easy to assume that the situation as we find it in Greek and Sanskrit is the true IE prototype but the evidence of Hittite contradicts this. The simple system in Hittite predates any evidence we have from Greek and Sanskrit. Can they be reconciled as part of the same tradition? It is perhaps best to view these two different types of system as extremes in the IE pool, it is after all impossible to say whether Hittite reflects Proto-Indo-European or whether a more complex system does. However, an earlier system is likely to be less complex than a later one; a language will not come into being complex but simple; subsequent use of it will develop its complexity as it becomes able to articulate ever more complex relationships and situations, and as distinct words become grammaticalized as morphemes and then as indistinguishable inherent segments of lexemes. MCMAHON (1994, 168) points this out in her analysis of the work of GIVÓN[7] . She quotes GIVÓN's cycle of grammaticalization:

Discourse → Syntax → Morphology → Morphophonemics → Zero

> That is, forms which originally help build a coherent discourse become part of the syntax; grammaticalisation then embeds them in the morphology, and subsequent phonological attrition fuses them into morphophonemic markers, then finally deletes them altogether. [...] Givón sums this up in the statement that 'today's morphology is yesterday's syntax' (1971:413): a consideration of present-day morphology might therefore help us to reconstruct the syntax of earlier periods.

From this one can infer that languages with a highly developed morphology have grammaticalized syntactical relationships. Hittite's simple synthetic tense system using analytic construction with the help of auxiliaries would imply a system for Hittite before grammaticalization had taken place, that is before the high degree of morphological complexity in Greek and Sanskrit had developed. But GIVÓN's scheme is cyclical, which means that Hittite and the others could be at incomparable places in the cycle, or rather not in the same revolution of the cycle at all, so that it is impossible to say whether the Hittite system or the Greek/Sanskrit one shows the original IE morphology. Most likely neither does wholly, but one or other may be closer.

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[7] GIVÓN, T. (1971). "Historical Syntax and Synchronic Morphology: an Archaeologist's Field Trip", *Chicago Linguistic Society Papers* 7, 394-415; and GIVÓN, T. (1979). *On Understanding Grammar*. New York: Academic Press.

The large degree of morphemicization in Greek and Sanskrit points to a system which has grammaticalized to a great extent and much of this grammaticalization seems to be left out of account in other IE languages, viz. the simple Germanic verbal system. But phenomena like ablaut have such indisputable cognates in other languages that when cognates become less apparent, it becomes very tempting to look for cognates where they do not exist.

It may perhaps be apposite at this point to talk a little about the Indo-European tense system, discussing the semantic reference of the various tense forms. Having done this we may then more easily be able to understand the relationship of the Greek/Sanskrit tenses with the Germanic preterite. A further consideration would be a look at the notion of aspect in Indo-European.

5.1.1.1 Tense in Indo-European

In the previous section we discussed the system of tenses in the two languages I have taken as representative for early Indo-European, Greek and Sanskrit, in regard to the morphological categories which they exhibited within the system. This discussion says nothing about the use to which these tenses were put. I can say there were four tenses in Greek, but this does not explain what these tenses express. So let me begin by explaining the situation in Greek. The four past tenses in Greek each express a slightly different perspective towards the past. The imperfect stands in direct opposition to the present tense, it has the same stem structurally, though the imperfect, according to SMYTH (1920, 423), is described as representing "an action still going on, or a state as still existing, in the past". The whole of the action occurs in the past, but it is seen as something enduring over a period of time, or as something habitual. The aorist on the other hand "expresses the mere occurrence of an action in the past. The action is regarded as an event or single fact without reference to the length of time it occupied"(*ibid.*, 429) The perfect tense refers to actions in the past the relevance or effects of which are still felt in present time; the pluperfect (the last of the four past tenses in Greek) is merely the past tense of the perfect tense, it denotes a state in the past resulting from an action further in the past, "a past fixed state resulting from a completed action" (*ibid.*, 435). As well as referring to actions taking place in the past, the choice of tense in Greek conveys something more about the action, whether its effects are still felt, whether the action was continuous, or whether nothing more is to be said about the action than the action itself without any reference to its place in the sequence of events. COMRIE (1976, 17 *et passim*) explains the difference in aspectual terms. The Greek perfect and imperfect tenses display imperfective aspect, in that they refer to the internal ordering of the action; in other words, the use of either of these tenses says something about the relation of the action to itself and has therefore internal relevance, whereas the aorist tense displays perfective aspect in that the action is described in regard to its relevance to the external

world.[8] The question of aspect in the inventory of Indo-European is a difficult and controversial one. The number of tenses in Greek and the difference between the imperfect and the aorist make it difficult to see any other explanation than to admit the role played by aspect in Greek. However, this is apparent only in the past tense. No similar aspectual differences hold for the present tense (in the indicative mood), for instance. In the present tense the aspectual differences seen for the past tenses are conveyed by the present tense alone. I am, of course, speaking only in morphological terms; aspectual differences can be made in other ways, using the lexicon, but in the present discussion these are less important.

What about Sanskrit? Are there the same aspectual considerations, so that one might be able to suggest that they are common to the IE proto-language. Sanskrit, like Greek, has the capacity for forming four past tenses. The pluperfect, although admitted by the Indian Grammarians, is nevertheless very rare and seems not to have developed a specific meaning as in Greek, and "it quickly dies out" (BURROW 1955, 297). The other tenses require explanation. The imperfect is simply the opposite of the present tense, and refers to actions in the past irrespective of duration and internal consistency. The aorist also refers to actions in the past but to those which have just taken place. This difference between the aorist and present systems (from which the imperfect tense comes) is only seen in finite indicative forms, elsewhere there seems to be no distinction between the choice of an aorist form over a present one. Indeed the aorist formation bears so much relation to the formations in the present tense that it seems likely that the aorist tense develops out of certain present tense forms or conjugational categories. The perfect tense in Sanskrit relates to a state and in effect is a type of present tense. The fact that it is formed in such a different way from the other tenses suggests from the outset that it stands in opposition to them and has a different type of meaning. It does, however, over time develop into a preterite tense so that by the Classical period the perfect has become a tense of narrative. In the intervening stage, "since a state is normally the result of a preceding process, it was natural that the perfect should be used to express the fact that such an action had already take place" (BURROW 1955, 297).

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[8] It is important not to confuse the two designations "perfect" and "perfective" when talking of aspect. "Perfect" is used to describe an action in the past the effects of which are still felt in the present. Whether or not this is a true aspect is a moot point and labours under the difficulty arising from the usage of the same term to refer to various tenses in various languages. In modern spoken German, for example, the perfect tense, formed with the past participle of the main verb and an auxiliary is now used merely as a simple means of referring to actions occurring in the past without necessarily denoting any relevance they might have for present time. In English, however, the pair of sentences: *I have eaten* and *I ate* show this distinction, the first has perfect aspect in that the action is described and also the state arising from it is implied, the second, though, speaks only of the act of eating. "Perfective" aspect, as may have become clear from the discussion above, is used of forms which do not make any explicit reference to the internal ordering of the situation. TRASK (1993, 204) notes that the confusion between the two terms may have arisen as a result of the fact that the perfect tense in Latin was used in both functions. For a more detailed discussion of aspect see COMRIE (1976) and SZEMERÉNYI (1990, 332-341) where there is also a more comprehensive bibliography on the subject, although mainly from an IE perspective.

Of course, this means that there might be a danger that the perfect would become confused with the use of the aorist, but for the fact that the aorist was entrenched as a tense describing the recent past. The perfect does not have this restriction, the action can be further in the past, because it was still the state resultant from it that was most important. On the question of aspect, SZEMERÉNYI (1990) points out that the situation is so unclear that some scholars make no mention of it at all. From the position described above, as regards the uses of the tenses, only the perfect can be said to have any aspectual function, but one which over time it fully loses as it becomes a narrative tense, merely relating deeds in past time. In as much as it describes a state it does seem to act aspectually, being more interested in the internal consistency of the situation rather than with its relationship with extraneous acts outside its realm of semantic relevance. The difference between imperfect and aorist seems to be purely based on temporal considerations rather than aspectual ones. The imperfect tense relates events in the past whereas the aorist tense specifically relates events that happened in the very recent past.

We must now look at the situation in the early Germanic dialects to see in what relationship they stand to the perceived IE system.

We have said that in Germanic there was only one synthetic past tense. This means, therefore, that all of the uses noted for Sanskrit and Greek in their past tenses are reproduced using just one in Germanic. In addition the aspectual differences that were noted for Greek play no role in Germanic where there is no morphological opposition in the past tense, and so aspectual differentiation is impossible. Mention must, however, be made of the prefix *ga-* in Gothic and elsewhere in Germanic (but not Norse) which has been described as a formation introducing perfect aspect, that is the description of a state resultant from an action in the past.[9] If this is the case, that it is aspectual in function, then we have in Germanic a complete instance of morphological differentiation for aspect, which is more than we have for Indo-European. Greek only shows aspectual differences in the past tense, Sanskrit equally but to a lesser extent. The only well attested instance of complete aspectual morphology in Indo-European is in the Slavic languages, most notably in Russian. This branch of Indo-European has developed the opposition of imperfective and perfective aspect fully, so that each lexeme has, in fact, two morphological realizations according to the aspect of the action. As an example, one could take the pair of verbs *chitat'* and *prochitat'* both of

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[9] Many handbooks call this perfective aspect, but according to my terminology this must be corrected to perfect aspect. The MHG forms *er sach* and *er gesach* differ in as much as the former means "he saw" whereas the second can also mean, depending on context, "he recognized" (i.e. "has seen and has drawn a conclusion from it") "he has seen" and even "he had seen". It is the meaning "recognized" which conveys perfect aspect in that the act of seeing has produced an effect which is still present, i.e. the recognition.

which mean "read". The first, however, is termed imperfective and the second perfective. From the following sentences the usage will become clear:

My kazh'dyj den' chitali gazety "We used to read the papers every day"

My prochitali gazety "We have read the papers/ we have finished reading them"

In the Russian system of aspect the perfective implies that the action is completed, in contrast to the imperfective which is used of actions which are either frequentative or continuous. The examples from Slavic are the clearest of any IE languages in the use and functioning of aspect as a morphological category. As such a clear example, we might take it as a pointer to the originally aspectual nature of the IE verbal system, we have after all a similar situation in the past tense of Greek and possibly in Sanskrit. However, the facts do not bear this out. Aspect as a category in Slavic is a relatively recent addition to the morphology.

> Nun ist seit geraumer Zeit klargeworden, daß der *Aspekt im Slavischen nicht etwas Uraltes* ist, sondern eine *Neuerung* darstellt, die im Altkirchenslavischen noch in den Anfängen steckt. Für uns ist nur wichtig, daß der slavische Aspekt nicht aus dem Indogermanischen ererbt ist, daß er einen indogermanischen Aspekt nicht erweisen kann. (SZEMERÉNYI, 1990, 336)

As with Slavic, the perceived existence of aspect in Germanic in the prefix *ga-* is by its non-Indo-European nature not enough to prove the wholesale existence of morphological aspect in Indo-European. Each of the examples of aspect is different, and that aspect should have a common source is less likely than that it developed in isolation in each of the branches. Thus the notion of aspect in a discussion of the Germanic verbal system and its use of ablaut is largely unnecessary, but I hope it will have been of use to outline briefly the verbal categorization found in other branches, for I am endeavouring to point out the relationship between the Germanic verbal system and those of cognate IE languages. Inconclusive and discursive as this discussion of the IE tense system might appear to have been, my argument would nevertheless have been incomplete without it, especially as the question of the many tenses in Indo-European will crop up again later when we come to a discussion of Germanic verb morphology.

It is interesting to point out here, in a discussion of the IE tense system, the situation in Hittite, the language for which we have the oldest extensive textual evidence. Hittite shows one of the least complex verb morphologies of all the IE languages, it has two voices (active and medio-passive), two moods (indicative and imperative) and only two tenses (present and preterite)[10]. That such a simple system as the Hittite one existed at such an early date in the

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10 "Das Tempus- und Modussystem [des Hethitischen] ist sehr einfach: An nicht zusammengesetzten Tempora existiert nur ein Präsens (das auch für das Futurum mit eintritt) und ein Präteritum, an Modi

IE calendar surely supports the argument that aspect and tense diversity is dialect-specific. In other words, diversity is something we must expect, and to look for correspondences between branches where they are not obvious and explicable is to be guilty of a kind of prescriptive comparative study.

Let us then see what correspondences there are between Indo-European and Germanic.

5.2 The Comparison

5.2.1 Classes 1-3

Comparing the tables of the ablaut systems of Indo-European and Germanic from the preceding chapters 3 and 4, it is quite plain that there are some correspondences. In order to make these correspondences yet clearer let me partially re-introduce the data we saw then, and set them alongside each other.

Greek:

λείπω "I leave"	λέλοιπα "I have left"	ἔλιπον "I left"
πείθω "I persuade"	πέποιθα "I trust"	πιθανός "persuasive"
ἐλεύσομαι "I shall come"	εἰλήλουθα "I have come"	ἔλυθον[11] "I came"
πέμπω "I send"	πέπομφα "I have sent"	
δέρκομαι "I see"	δέδορκα "I have seen"	ἔδρακον "I saw"

Sanskrit:

chid- "split"	*cicchéda* "he has split"	*cicchidúr* "they have split"
diš- "point out"	*didéša* "he has pointed out"	*didišúr* "they have pointed out"
tud- "push"	*tutóda* "he has pushed"	*tutudúr* "they have pushed"
budh- "know"	*bubódha* "he has known"	*bubudhúr* "they have known"
drš- "see"	*dadárša* "he has seen"	*dadršúr* "they have seen"
vrt- "turn"	*vavárta* "he has turned"	*vavrtúr* "they have turned"

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neben dem Indikativ nur ein Imperativ. Durch Zusammensetzung mit Hilfsverben können noch ein paar seltener gebrauchte Tempora gebildet werden." (FRIEDRICH, 1960, 76-77)

[11] The forms listed here are from the verb ἔρχομαι "to go, come"; the future tense depicted here is used in Epic, Ionic and also in texts of the Tragic tradition; the 2nd perfect is used in Epic texts; the 2nd aorist in poetic texts. The choice of forms for this verb may seem a little contrived, but as will be remembered from the discussion of the Greek ablaut system in Chapter 3, the number of common verbs which actually show an ablaut alternation is rather small. (SOMMERSTEIN, 1973, 74)

Germanic:

**beidan* "to wait"	**baid* "(he) waited"	**bidunþ* "(they) waited"	**-bidan* PP
**steigan* "to climb"	**staig* "(he) climbed"	**stigunþ* "(they) climbed"	**-stigan* PP
**fleugan* "to fly"	**flaug* "(it) flew"	**flugunþ* "(they) flew"	**-flugan* PP
**kleuban* "to cleave"	**klaub* "(he) clove"	**klubunþ* "(they) clove"	**-kluban* PP
**fendan* "to find"	**fand* "(he) found"	**fundunþ* "(they) found"	**-fundan* PP
**sweltan* "to die"	**swalt* "(he) died"	**swultunþ* "(they) died"	**-swultan* PP

As was made clear in **5.1.1.1**, when I discussed the question of tense in Indo-European, the tenses in Indo-European which correspond to Germanic and its utilization of vowel gradation are semantically and functionally divergent. The alternation scheme from Greek represented here takes, on the whole, the form: present - 2nd perfect - 2nd aorist. That for Sanskrit takes the form of: root - perfect singular - perfect plural. The root of a Sanskrit verb is its unlengthened form without desinential inflexions. Although, as was pointed out, this is not necessarily the best way of proceeding, it is the way in which the verb forms are traditionally given.[12] The Germanic examples follow the pattern: infinitive - preterite singular - preterite plural - past participle.

The fact that in Sanskrit the three vowels /a,e,o/ coalesced at an early stage into the single /a/ means that there can be no qualitative ablaut of the type to be of interest to us for the Germanic system. Nevertheless the forms from above show clear cases of Germanic continuing morphological patterns found in earlier stages of the language family. Let us extract these correspondences.

The correspondences are twofold. Firstly the alternation between the infinitive in Germanic and the preterite singular form is one of /e/ versus /a/. This compares with the alternation in the Greek examples, where an /e/ of the present tense (first column) alternates with /o/ in the perfect (second column). The a~o anomaly is explained by the fact that those Germanic words with cognates in other IE languages show /a/ where in Indo-European one would find either /a/ or /o/ (e.g. Lat. *octo*, Go. *ahtau* "eight"; Gk. αγρός, Go. *akrs* "field"; Lat. *hostis*, Go. *gasts* "stranger"; Gk. ἅλς, Lat. *salis*, Go. *salt* "salt"). Thus the *e~o* ablaut of Indo-European is an *e~a* ablaut in Germanic. One can only suppose that before the three vowels, /a,e,o/, coalesced in Sanskrit there was an ablaut relationship between present tense forms and those of the perfect.

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12 See chapter 3 and the Indian Grammarians' opinion on ablaut and the resultant explanation by samprasārana, and the terms guna and vrddhi.

Secondly, we find a correspondence in quantitative ablaut. If we compare the Sanskrit examples with those from Germanic, we see that the forms of the perfect in the former and the preterite in the latter exhibit a reduction of the vowel segment in the root in the plural form in contrast to the singular. Something we can clearly see from the Sanskrit examples is the position of the accent. Sanskrit originally had movable pitch stress, the accented syllable was pronounced with a raised pitch with the other ones in the word being in comparison lowered.[13] The fact that the stress was movable is, as was shown earlier, the relevant factor in the development of quantitative ablaut. Later in the language, however, the position of the stress became fixed in a manner similar to that in Latin, except that if the ante-penultimate is short the stress can move back to the fourth syllable from the end; in Latin the ante-penultimate syllable is the furthest back the stress can move, as the result of a lack of long syllables. Where there is movable stress, the length of the syllable has no influence on the place of the stress. Thus in earlier Sanskrit the stress can seem to fall arbitrarily. In the perfect tense the forms of the singular active bear the stress on the root syllable, which as a result appears lengthened in comparison to the uninflected root. In the forms of the dual and plural active and all forms of the middle the stress falls on the ending, usually the first syllable of the desinence. The effects of this placement of stress in Sanskrit means that the root vowel in the non-root stressed forms is reduced or shortened. In the first two sets of examples the diphthongs *e* and *o* (representing original /ai/ and /au/) alternate with /i/ and /u/ respectively. Thus for these, in effect, the shortening/reduction entails loss of an embedded /a/ segment, and as we have seen this /a/ can represent any of /a,e,o/ in cognates with other languages. The same is the case for the third set of examples; in these, too, the alternation between singular and plural is a loss of /a/; here, however, the alternation is much more obvious.

If we now look at the evidence from Germanic, we see how closely the data correspond. In the system as I have it here for an early stage of Germanic, which has been deduced from the evidence of the later dialects, the mechanics of the alternation are much clearer to the eye. In the first two sets of examples, which represent those verbs traditionally grouped into the first and second classes of ablauting Germanic verbs, the loss of the /a/ in the preterite plural form is easy to see and the reduction of the vocalic segment of the root of the verb is clear.

Still left to explain is the existence of the vowel /u/ in the third set of examples from Germanic. This vowel does not appear in any of the other forms of the verb except in those where there has been reduction from the full grade (either *e*- or *o*-grade).[14] If the forms

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[13] The nature of IE accent and its role in producing ablaut is discussed at length in chapter 2. Introduction and Definition.

[14] I shall use the IE-wide terms *e*-grade and *o*-grade to talk of qualitative ablaut, although IE /o/ appears as /a/ in Germanic.

followed the same pattern as that for classes 1 and 2 then we would get the forms **fndunþ* and **swltunþ*. Difficult as this looks and whatever doubts one might have about the pronounceability of the two forms, the capability of nasal and liquid segments to become syllabic and act as vowels is attested in many different languages, not least of all from Sanskrit, as the examples above show. There are now two possibilities as to how the /u/ segment came to be inserted. (The word "inserted" itself begs the question. It somehow implies a degree of purpose which is unlikely.) Firstly, that a rendering of syllabic /n/ in Germanic entailed the addition of /u/ so that in fact there is no development of /n/ > /un/ because they are one and the same thing. On the other hand the development might be that originally in Germanic there was a syllabic /n/ distinct from the string /un/, but that the former developed into the latter through ease of pronunciation. Whichever is the true description of the process of events, the examples nevertheless show affinity with the examples taken from Sanskrit. The remarkable thing in the examples is that Greek does not show reduction in the plural of its 2nd perfect tense as we see it in Sanskrit and Germanic. This must have happened as a result of levelling throughout the perfect, so that just one form is used for that tense.

In addition to the observations already made, we can corroborate the position of stress in Sanskrit with evidence from Germanic which agrees with it. This question of stress is corroborated with recourse to VERNER's Law or grammatical change, whose effects were briefly outlined in section **2.2.1**. VERNER's Law demonstrates that Germanic at an early stage exhibited movable stress patterns in the same way as for early Sanskrit. Thus the correlation in Sanskrit between stress and reduction in the Sanskrit perfect is echoed faithfully in the Germanic preterite. In terms of position of stress and alternation pattern we can see, then, that Germanic reflects the system we set up for Indo-European in chapter 3. And yet there are still some verb forms which do not quite fit into this scheme for Gmc. classes 1-3. Verbs which, although their ablaut pattern seems to fit the model for the class, nevertheless in some respect do not conform. These verbs display a vocalism in the present tense which does not reflect what is expected, according to the system as I have propounded it, and these therefore require explanation. Classes 1-3 are the most homogeneous and conformist or rather, from a less regimental viewpoint, are the ones for which the members show least divergence from the class archetype. There are few forms which require some explanation before they can be safely ascribed a position in their respective classes.

The following is a list of the verbs which do not appear to belong in the classes to which they are ascribed in the appendix:

Class 1: Go. *digan* (appendicized as *deigan) "knead"

Class 2: OE *būgan* "bend"
OE *brūcan*, OS *brūkan*, OHG *brūchan* "use"
OE *dūfan*, ON *dúfa* "dive"
OHG **tūchan* "dive"
OE, OS *hrūtan*, OHG *(h)rūzzan* "snore"
OE *crūdan* "crowd"
OE *lūcan* "uproot"
Go. *-lūkan*, OE *lūcan*, OS *lūkan*, OHG *lūchan*, ON *lúka* "close"
OE *lūtan*, ON *lúta* "bow"
OE, OS, OHG *sūgan*, ON *súga* "suck"
OE *sūcan* "suck"
OE *sūpan*, OHG *sūfan*, ON *súpa* "sup"
OE *scūfan* "shove"
OE **scūdan* "rush"
OE *slūpan* "slip"
OE *smūgan* "creep"
OS *sprūtan* "burgeon"
ON *stúpa* "jut out"
OE *strūdan* "plunder"

Of these 20 verbs, 13 are attested in the various dialects in which they occur with only this apparently aberrant vocalism shown here. Such verbs are: *digan*, *brūcan*, *dūfan*, **tūchan*, *lūkan* "close", *lūtan*, *sūgan*, *sūcan*, *sūpan*, **scūdan*, *stúpa*, *strūdan*.[15] In the other cases the verb exists in another dialect with the expected form for verbs of the respective class. Such evidence is important in trying to explain these verbs. If the verbs were seen to behave in a unified manner then explanation would be less fragmented and less reliant on too many unprovable, coincidental factors.

So what are the explanations that have been offered for these forms? Let us look at them.

5.2.1.1 Aorist Presents

In his assessment of the strong verb system of Germanic, PROKOSCH (1939, 147f.) equates various types of Germanic verb with other types from Sanskrit. The majority of Germanic strong verbs he associates with the root-stressed thematic verbs of Sanskrit, those of the type *bhávati* (from √*bhu* "be"). Alongside these he sets some verbs from Germanic which he sees as corresponding to the suffixally stressed thematic class of Sanskrit, the *tud*-Class (*tudáti*). Thus PROKOSCH has two groups of present tense forms for Germanic verbs.[16] The first group, as I mentioned above, contains the majority of the strong verbs in Germanic. The second group, however, has, among others, those verbs which I have singled out as being difficult for the first three Germanic classes of strong verbs (i.e. the verbs *digan*,

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15 In this list the verbs are given as they appear in OE, which has the greatest number of verbs of this type with /ū/, except where the verb is not found in OE. This avoids needless repetition.
16 PROKOSCH does in fact have other types, but at this point in the discussion only these two are of importance.

būgan, *brūcan* ..., *stúpa*, *strūdan*). PROKOSCH terms the first group "Durative Presents" and the second "Aorist Presents". After listing, as examples of the first of these groups, the verbs *steigan* ... *lētan*, he goes on to say:

> These verbs are durative in the sense that in their most frequent, so to speak natural use, they express continuous action, "to be climbing, pouring, turning (becoming), distributing (taking), seeing , relaxing (letting)". Theoretically, every verb can be durative or momentary, ("to reach the top, pour, make a turn, give out, notice, let go"), but in Germanic there is a definite tendency to use for the present exclusively that form of the stem that is predominant in use. The other stem form is either given up entirely or, in certain types, used as a substitute preterit. Thus Go. *slēpan* "sleep", *rēdan* "meditate" are normally durative, and the *bhávati*-form is used for the present, while the *tudáti*-form [...] **slapan*, **radan*, has disappeared. On the other hand, ON *vaþa* "wade, pass through", *taka* "take" are *tudáti*-forms, and the normal grade forms *(v)ōþ*, *tōk* are used as preterits. (1939, 148-149)

What PROKOSCH appears to be saying here is that the durative present and the aorist present are aspectually differentiated terms. If such an aspectual difference were morphologized then one would expect that each verb could form aspectual variants in accordance with the morphological framework within the Sanskrit examples. That is, that each root had two variant forms depending on the aspect conveyed. But from what I said on the subject of aspect, it is clear that the evidence we have from extant languages does not permit us to say with any authority that there were aspectual differences in Indo-European which were made morphologically. It seems more likely that any aspectual differentiation that is evident is language-specific rather than indicative of Indo-European-wide trends, or on a semantic level instead. If this is the case then PROKOSCH's theory is untenable in its present form. In spite of this, however, it is nevertheless apparent that the verbs from Germanic which do not fit into the archetype for the first three classes do benefit from an explanation in terms of the examples of different ways of forming the present tense, as PROKOSCH shows with Sanskrit *tudáti* and *bhávati*. The fact remains that the type PROKOSCH calls the aorist present displays a vocalism more usually associated with the aorist tense of say Greek (e.g. φεύγω, ἔφυγον), at least in comparison with the examples from Sanskrit (*tudáti* "pushes", *rujáti* "breaks", *dišáti* "points out"), where reduced grade is the norm as a result of the suffixal accent. How does this compare with the forms from Germanic which, except for *digan* with /i/ which appears to conform to this type, have /ū/ a long vowel? How can this reflect reduced grade of *tudáti*-type verbs? One might suggest that the /ū/ is the reflex of a reduced grade of a long diphthong (/ēu/ > /əu/ > /ū/), but then the past participle vocalism and the preterite plural vocalism should have the same reduced grade vocalism as the present tense. PROKOSCH points out that the most likely explanation is that the actual vocalism is /u/, not /ū/, and that this /u/ was lengthened on analogy with the verbs of the first class, all of which (except *digan*) have long vocalism in the present tense. This certainly accounts for the otherwise unacceptable and difficult explanation of /ū/ through long diphthongs which are

notoriously problematic as explanations because of their levelling with short diphthongs.[17] It also means that an explanation along the lines of *tudáti*-forms becomes more believable, because we have explicable reduced grade forms.

This is, however, not the end of the problem. Because some of the verbs in the Germanic list have forms in other dialects which conform to the pattern for the class, we are then left with the problem, why there should be divergent forms of the same verbs in different dialects. Let us look in detail at those verbs which have different forms.[18]

OE *būgan*	Go. *biugan*, OHG *biogan*
OE, OS *hrūtan*. OHG *(h)rūzzan*	ON *hrjóta*
OE *lūcan* "uproot"	OHG *liohan*
OE *scūfan*	Go. *-skiuban*, OHG *skioban*
OE *slūpan*	Go. *sliupan*, OHG *sliofan*
OE *smūgan*	ON *smjúga*
OS *sprūtan*	OE *sprēotan*

It certainly seems from this list that Old English leads the way in the formation of the present tense of such verbs with /ū/. But which way round does the development progress? Are these seven verbs aorist presents at all according to PROKOSCH's analysis? If we believe they are, what has happened in the case of the forms from the other dialects which do not show /ū/. The explanation according to PROKOSCH suggests that the /ū/ appears as a result of analogy with verbs of Class 1 which themselves have a long vowel, /ī/. If these seven verbs *are* aorist presents then we have to account for the development of the diphthong /eu/ (OE /ēo/, Go. /iu/, OHG /io,iu/, ON /jó,jú/) in them, in contrast to the forms with /ū/. Diagrammatically we must account for the following:

i)	/u/ > /ū/	for the aorist presents of PROKOSCH.
ii)	/u/ > /eu/	for the divergent forms.
or iii)	/u/ > /ū/ > /eu/	ditto

The first we take as read, assuming PROKOSCH is right. The second seems to have no motivation nor parallel in other Germanic phonological forms. The third can only be explained if we assume two analogical stages. The first: analogy with Class 1 present forms; the second: analogy with other Class 2 verbs which are not aorist presents. iii) above provides the most convincing explanation for the divergent vocalisms assuming that all the verbs showing /ū/ are aorist presents. Assuming two separate analogies means that the aorist presents are assimilated into the second class of Germanic strong verbs in a unified manner. They all analogize to /ū/ from /u/. ii) above would mean that verbs with the same original

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17 This problem of the long diphthongs will re-emerge when we consider the origins of e².

18 It will be seen from a comparison with the appendix that I have included there putative infinitives with Gmc. /eu/ which are not listed here. That they are putative forms quite obviously rules out their evidence in the matter of the origins of verbs with /ū/.

vocalism (reduced grade /u/) developed differently once they were a part of the second class. This seems unlikely and illogical. However, this all begs the question: what is the motivation for assimilating to the second class? Why should the verbs exhibit the ablaut alternation pattern for this class? An easy answer to this questioning might be that these verbs had nowhere else to go. As the only large class dealing with verbs with a high, back vocal element, /u/, the second class was the only possible refuge for them.[19]

This explanation has assumed that all the verbs showing /ū/ somewhere in the Germanic dialects are aorist presents in the way PROKOSCH proposes. If, however, we look at the problem from another angle a different explanation presents itself. Analogy can work in two directions, what we consider the influential form may be the influenced one and vice versa, and this is the essence of a possible further consideration of the data. The anomalous seven verbs with /ū/ might, of course, not be aorist presents at all, but rather normal verbs of Class 2 which under the influence of the aorist presents' analogization to a long vowel present like Class 1, rather than the predominant diphthongal vocalism of Class 2, undergo the selfsame analogy. In this way all analogy points in the same direction: towards the long vowel of Class 1. This seems the most satisfying of the interpretations dealt with so far.

HIRT (1931-4, II, §133, 168) on this problem is a little more unconvinced of the necessity of an explanation which relies on aorist presents.

> Im Griech. unterscheidet sich nämlich der sog. Aoristus secundus nur durch die Betonung und die dadurch bedingte Schwundstufe von dem Präsens.
>
> Es heißt Prs. Inf. λείπειν 'lassen', Aor. λιπεῖν; φεύγειν 'fliehen': φυγεῖν. Und so stehen nebeneinander Aor. ἔφυγον and Imperfekt ἔφευγον.
>
> Es gab aber auch, und so besonders im Indischen, Präsentien mit Schwundstufe der Wurzelsilbe. Daher hat man sie Aoristpräsentien genannt. (HIRT 1931-4, II, 168)

This is a more succinct and also distanced description of what aorist presents are. Such distance is accounted for by the fact that later in the same section HIRT dismisses, for the most part, the need for aorist presents in an explanation of the Germanic verbal system:

> Wenn nun auch in einzelnen Fällen, wie bei *sūfan* and *sūgan*, das *ū* als *ū* berechtigt sein mag (zu lat. *suādere*, *suāvis*), so doch in den anderen Fällen nicht. Ich vermute daher, daß *ū : au : u* dem Verhältnis *ī < ei : ai : i* nachgebildet ist. Nimmt man das an, so bleiben nur sehr wenig sog. Aoristpräsentien übrig.(*ibid.*, 169)

HIRT does not give any exact details regarding the actual verbs he regards as aorist presents and those he thinks are nothing more than true verbs of this class which have analogically

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19 It is true that there are a small group of reduplicating verbs with a high, back vowel, but the very fact that they are so small in number means they have a smaller pulling-power in regard to their ability to inspire analogy in other forms. They are also reduplicating in origin, and thus have a quality alienating to other homeless verbs. For the aorist present verbs to find a home here would mean a double, simultaneous analogy of vocalism and reduplication.

followed the lead of the first class of Germanic strong verbs and have monophthongized and lengthened the vowel of the root syllable. None of this seems terribly conclusive. It seems that HIRT is saying that those verbs which can be proved to have IE cognates with reduced grade /u/ are most likely to be Germanic reflexes of an IE *tudáti*-type verb. The fact remains that *tudáti*-verbs in Germanic would have to assimilate somehow into a system which was becoming much tighter morphologically and morphonologically. In addition it cannot be forgotten that the shift of accent in early Germanic, evidenced by the phenomenon variously referred to as VERNER's law and grammatical change, must have played a part in expunging the difference between *bhávati* and *tudáti* verbs in regard to the position of their accent. With no real structural difference between the two types, it is hardly surprising that the verbs were assimilated into the Germanic system of *strong* verbs; a system consisting primarily of verbs of the Skt. *bhávati* type. As I mentioned earlier it is understandable that the /ū/ verbs became a part of the second Germanic class, where they do at least share a segment with the features [+ back, +high, +rounded].

To be conclusive about the origins of these verbs and their relationships with cognates one needs to know a little about the etymology of each of the verbs. For this I shall use SEEBOLD (1970). I shall only list verbal cognates from other IE branches. The results for all of the verbs which show /ū/ in one of their dialectal forms are as follows (all quotations from SEEBOLD 1970):

OE *būgan*: BEUG-A-, links with OI *bhujáti* "bends", Lat. *fugiō* "flee", Gk φεύγω "flee" aor. ἔφυγον.

OE *brūcan*, OS *brūkan*, OHG *brūchan*: BRŪK-A-, links with Lat. *fruor, fruī, frūctus sum* "enjoy", OI *bhunakti* "enjoy, consume", "...wenn man auch hier annimmt, daß das Nasalinfix zwischen Labial und Guttural den Liquiden ausgedrängt hat."

OE *dūfan*, ON *dúfa*: DŪB-A-, links with Lit. *dumbú, dùbti* "lower oneself".

OHG **tuchan*: DŪK-A-, "...hat keine Vergleichsmöglichkeit", but perhaps links with DŪB-A- from an underlying **dheu*?

OE, OS *hrūtan*, OHG *(h)rūzzan*: HRŪT-A-, "...keine genaue Vergleichsmöglichkeit".

OE *crūdan*: KRŪD-A-, no extra-Germanic cognates.

OE *lūcan*: LEUK-A-, links with Lat. *lūgēre* "lament", OI *rujáti* "breaks".

Go.-*lūkan*, OE *lūcan*, OS *lūkan*, OHG *lūchan*,ON *lúka*: LŪK-A-, "...hat nur sehr unsichere Vergleichsmöglichkeit in einigen Wörtern, die sich auf die Bedeutung 'biegen' zurückführen lassen", links with Lat. *luctāre* "wrestle", Gk. λυγίζω "turn, twist".

OE *lūtan*, ON *lúta*: LŪT-A-, links with Lit. *liūstù* "become saddened, depressed", OCS *luzdo* "deceive", Cym. *lludded* "tiredness".

OE,OS,OHG *sūgan*, ON *súga*: SŪG-A-, "...gehört zu einer gut vergleichbaren Wurzel *sū-*", links with OI *sunóti* "press out"

OE *sūcan*: SŪK-A-, likewise traceable to a root *sū-*, also links with Lat. *sūgere* "suck"

OE *sūpan*, OHG *sūfan*, ON *súpa*: SŪP-A-, cf. also SŪG-A- with root *sū-*.

OE *scūfan*: SKEUB-A-, "...keine überzeugende Vergleichsmöglichkeit".

OE **scūdan*: SKŪD-A-, no cognates.

OE *slūpan*: SLEUP-A-, links with Lat. *lūbricus* "slippery".

OE *smūgan*: SMEUG-A-, links with Lit. *smáugiu* "choke", Lit. *smunkù* "slide, slip", OI *muñcati* "let go".

OS *sprūtan*: SPRŪT-A-, links with Lit. *spráudziu* "squeeze into a small space".

ON *stúpa*: STŪP-A-, the strong verb, according to SEEBOLD, is a secondary formation and so irrelevant to the case for aorist presents.

OE *strūdan*: STRŪD-A-, "...keine unmittelbare Vergleichsmöglichkeit".

The form given in upper case letters is the form that SEEBOLD gives as his dictionary entry and it thus represents the proto-Germanic form for him. As with all proto-forms the accuracy and reliability is highly questionable, so that the end result of this enquiry into aorist presents remains inconclusive. The decision by SEEBOLD whether to ascribe to a particular verb an underlying form with EU or Ū seems arbitrary and is certainly not intended as, and can in no way be taken as, a pointer to aorist present derived forms. A few forms do seem to have links with Skt. (OI) *tudáti*-verbs but their number is small and also inconclusive for our purposes. What, however, we are looking for is evidence that the /ū/ verbs have cognates with reduced grade vowels. There are a possible ten which fit this bill: BEUG-A-, BRŪK-A-, DŪB-A-, LEUK-A-, LŪK-A-, LŪT-A-, SŪG/SŪC/SŪP-A-[20], SMEUG-A-. Let us now compare this list of ten with the list of eleven /ū/ verbs from earlier which exist only in forms with /ū/ and do not show verbal alternatives in other dialects with Gmc. /eu/. What we find here is that there is a considerable overlap between the two lists. This accounts for the Germanic roots: BRŪK-A-, DŪB-A-, LŪK-A-, LŪT-A-, SŪG-A-, SŪK-A- & SŪP-A-. In addition to this we cannot rule out DŪK-A-, SKŪD-A-, STŪP-A- and STRŪD-A-, because they have etymologies which cannot be traced, and so may reflect now extinct forms with reduced grade /u/. This large identity betweeen the two lists points in favour of an explanation which at least considers the possible part played by the IE conjugational type which has a thematic verb accented on the theme with concomitant reduction of root vowel due to its not bearing the stress.

There must, indeed, have been confusion in the second class as to what exactly the present vocalism was meant to be with such aorist present forms and the inherent forms with /eu/, but the presents with /ū/ seem to have found justification in their similarity to the monophthongized forms in Class 1 (Gmc. /ei/ > /ī/) . Why these verbs with /ū/ appear more so in Old English is unclear and may be mere coincidence.

5.2.2 Classes 4 & 5

As we did in **5.2.1**, let us again set alongside each other forms from Greek, Sanskrit and Germanic which correspond structurally to the forms we find in the fourth and fifth classes of strong verb in Germanic so that we can pin down the similarities and the anomalies.

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20 Which, as we saw above, possibly stem from a root sū-.

Greek:

ἐγενόμεν "I became"	γέγονα "I have become"	γίγνομαι "I become"
κτένω "I shall kill"	ἔκτονα "I have killed"	
τρέπω "I turn"	τέτροφα "I have turned"	
ῥήγνυμι "I break"	ἔρρωγα "I have broken"	ἐρράγην "I was broken"
ἔτεκον "I begat"	τέτοκα "I have begotten"	

Sanskrit:

bhr- "bear"	*babhāra* "he has borne"	*babhrúr* "they have borne"
kr- "do"	*cakāra* "he has done"	*cakrúr* "they have done"
gam- "go"	*jagāma* "he has gone"	*jagmúr* "they have done"
vac- "speak"	*uvāca* "he has spoken"	*ūcúr* "they have spoken"
pac- "cook"	*papāca* "he has cooked"	*pecúr* "they have cooked"
sad- "sit"	*sasāda* "he has sat"	*sedúr* "they have sat"[21]

Germanic:

Class 4

**helan* "to hide"	**hal* "(he) hid"	**hēlunþ* "(they) hid"	**-hulan* PP
**neman* "to take"	**nam* "(he) took"	**nēmunþ* "(they) took"	**-numan* PP
**beran* "to bear"	**bar* "(he) bore"	**bērunþ* "(they) bore"	**-buran* PP

Class 5

**geban* "to give"	**gab* "(he) gave"	**gēbunþ* "(they) gave"	**-geban* PP
**sehwan* "to see"	**sahw* "(he) saw"	**sēhwunþ* "(they) saw"	**-sehwan* PP
**lesan* "to read"	**las* "(he) read"	**lēsunþ* "(they) read"	**-lesan* PP

As before let us see what correspondences we can extract from the above examples from Greek and Sanskrit and verbs from the 4th and 5th classes of Germanic. The first two columns from the Germanic examples relate very well to the first two columns of the Greek ones. As in Classes 1-3 there is an alternation *e~a* which reflects what we can see in Greek in the alternation *e~o*. However, the examples from Sanskrit do not seem to have much to offer by way of explanation for the Germanic forms. As we have seen elsewhere the Abtönung found in the first preterite form from Germanic finds no correlate in Sanskrit as it does in Greek (i.e. Gmc. **helan~*hal*, Gk. –γεν–~–γον–, but Skt. *pac-~papāca*; the perfect singular in Sankrit has the same vocalism as the present tense, guna grade, but that the third person shows vrddhi). In addition, the correlation between the Sanskrit examples in **5.2.1** and the Germanic alternants of the second preterite form found in the first three classes is lacking for Classes 4 and 5, as these examples show. As will be remembered, we saw that in the Sanskrit perfect tense there is an alternation involving the quantity of the vowels of the

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21 *Sedúr* from earlier **sasdúr*: thus also *pecúr* from **papcúr*. *ūcur* <* *uvcúr* by samprasārana (initial *v* reduplicates as *u*). See also section **5.2.3.2**.

root: in the indicative singular the guna or vrddhi vowel (i.e. full or lengthened grade), but elsewhere the vowel of the root syllable is weakened or reduced. This corresponded to what we could see from Germanic Classes 1-3 in whose forms the second preterite and indeed the past participle exhibited a reduced grade form in contrast to the full grade in the first two alternants (i.e. those of the present tense and the first preterite form). This reduction in the Sanskrit verb is again visible in the examples in this section, where I have taken verbs which have similar root structures to those from Germanic Classes 4 and 5. But unlike Classes 1-3 there is little resonance of this alternation in the Germanic examples here. The only point at which reduction of the root vowel occurs in these Germanic verbs is in the past participle of verbs whose root vowel is succeeded by a lone nasal or liquid; and in this it behaves just as the verbs in **5.2.1**. This leaves us with apparent anomalies, or rather forms for which the IE examples used up to this point have proved inadequate. The Sanskrit and Greek forms have shown us that there are formal correspondences between them and Germanic in regard to the ways in which the past tense vocalisms are formed and arranged. But here we now see that these forms do not provide us with a comprehensive explanation of the forms we find in Germanic. Indeed, must they? The point of this whole investigation is to ascertain the degree to which Germanic shares morphonemic categories with IE languages of a period earlier than that for which we have documentary evidence for Germanic. It is clear, however, that at this point we have stumbled on Germanic forms which do not lend themselves to explanation by means of the IE forms I have been using up to this point. So what do we have in these new Germanic forms?

At this early stage of the Germanic branch, both Class 4 and Class 5 have a long /ē/ in the second preterite forms, that is the third column in the list of examples from above. Following the pattern noticed in Classes 1-3 one would expect to find a reduced form of the root vowel here as well as in the past participle, as we do indeed find in the past participle of Class 4. The second problem is that in addition to the long /ē/ in the second preterite form, the past participle of the Class 5 type has the vocalism of the present tense alternant of the first column. So Class 4 has one alternant (pret. 2) which at this stage remains obscure, whereas Class 5 has two (pret. 2 and PP).

We should perhaps return to Greek and Sanksrit to see whether, in their large stocks of synthetic tense forms, there is anything comparable with the "odd" forms of Classes 4 and 5. Of course, there is no need to find a comparison for the PP vowel of Class 5. It shows the vocalism of the unchanged root of the verb and so is already proven as a possible alternant. In this case we need to find a reason why this form appears rather than the expected reduced grade. Its oddness is a reflection of why it is rather than what it is.

So is there anything in Greek or Sanskrit which might show that the /ē/ of the pret.2 forms in classes 4 and 5 is in fact an alternant found elsewhere in Germanic and thus not a Germanic innovation?

According to PROKOSCH (1939, 164): "The long vowel forms of classes IV and V are definitely aorists". Let us draw on some of the data from chapter 3 to see whether this assertion of PROKOSCH's is realistic or feasible.

A look at the system of aorists in Sanskrit shows us that there are indeed two types of aorist formation which would appear to fit the bill, i.e that display forms with lengthened grade. These aorists are sigmatic aorists, specifically the *s*-aorist and the *is-/sis*-aorists. They both show the lengthened grade or vrddhi throughout the active voice and normal grade (guna) elsewhere.

chand- "seem"	*acchāntsīt* "he seemed"
pū- "purify"	*apāvīt* "he purified"
nī- "lead"	*anāisīt* "he led"[22]

This seems to fit quite well, at least the first of these examples does, which more directly corresponds to the vowel alternation in the Germanic forms we are trying to explain. Do we find any corroboration of lengthened forms in Greek? Unfortunately evidence from Greek is difficult to evaluate conclusively. SMYTH (1956, §542a, 173) tells us:

> In verbs showing strong and weak grades, the tense-suffix is added to the strong stem: πείθω ἔπεισα, τήκω ἔτηξα, πνέω ἔπνευσα, ἵστημι ἔστησα ἐστησάμην.

This is not terribly helpful. Greek verbal roots show two forms: the strong, for which there are some verbs, although not very many, which show Abtönung, and the weak form. The weak form is a reduced form and the strong form a full grade form, so that the difference between the two is one of length. This is different from Sanskrit, where there are three clearly defined quantitative alternants which it calls root, guna and vrddhi. The Greek strong grade, however, does occur in environments where in the corresponding Sanskrit form we find vrddhi. This makes it all quite confusing. However, if we take a look at the Greek aorists in isolation from the rest of the Greek tense system things become a little clearer. The second Greek aorist, which has no suffix, is characterized by reduced grade in the root vowel. This is essentially a way of distinguishing it from the imperfect tense which in all other respects it resembles. In comparison with this aorist formation the Greek sigmatic

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22 As was pointed out earlier, the principle of lengthening in Sanskrit, i.e. in producing guna and vrddhi grades from the basic grade, is one whereby an /a/ or /ā/ respectively is added to the vowel. Thus the vocalisms of these examples. When /u/ or /i/ occur intervocalically they are consonantized, a process called samprasārana by the ancient Indian grammarians.

aorist can quite plainly be seen to have a longer root vowel. It is still the strong grade, but it is clear that the distinguishing factor between these two aorist formations is one of length of the root vowel. And yet despite this, does a language have any need of distinguishing features for formations which are essentially in complementary distribution? The motivation for the perceived length distinction is missing. If the 1st and 2nd aorists were discrete tenses with different functions then there might be grounds for distinguishing between them. As it is, however, this is not generally the case. The motivation for reduction in the 2nd aorist is that it would otherwise be identical with the imperfect forms: λείπω "I leave", Impf. ἔλειπον, 2nd Aor. ἔλιπον. If this is the real motivation, then a lengthened 1st aorist in distinction to the 2nd is superfluous. One must remember that if λειπω had formed a 1st aorist then its root vowel would have been the same as that in the present system and thus the same as that in the imperfect tense. Thus it would not undergo active lengthening as we have it in Sanskrit, quite apart from the fact that the 1st aorist has a different system of endings than the second aorist and also has a sigma theme.

All we can say on the evidence from Greek and Sanskrit is that Indo-European could utilize quantitative ablaut as a means of identifying aorists, that is that length could be a factor.

A further consideration would be such Latin perfect forms as *cēpi* from *capiō* "I seize", or *vēni* from *veniō* "I come". Latin has no aorist tense in opposition to the perfect and imperfect as both Sanskrit and Greek do. So, in effect, the questions we ask about the Germanic preterite are ones we could ask about the Latin perfect. Indeed the Latin perfect displays forms which can be attributed to both the perfect and aorist tenses in Greek and Sanskrit. There are many different ways of forming the perfect tense in Latin, as we saw in section **3.4.1**. Some verbs reduplicate (*tangō* "I touch" *tetīgi*, *pellō* "I force" *pepuli*) which as we have seen is an important way of forming the perfect in Greek and Sanskrit.[23] On the other hand there are also verbs which form this tense using an s-suffix (*dicō* "I say" *dixi*, *scrībō* "I write" *scrīpsī*), in this way resembling the sigmatic aorists of our other two ancient languages. That the Latin perfect appears to have forms which come from both the IE aorist and the IE perfect, speaks in favour, or at least does not speak against our regarding the lengthened perfects as reflecting lengthened aorists, i.e. like the examples from Sanskrit. It is perfectly clear in the Latin lengthened perfects that it is length which is meaningful as an aid in tense distinction.[24] These Latin examples help us to accept the idea of a lengthened aorist, before we try to explain the Germanic forms in these terms.

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[23] Sanskrit, in fact, also exhibits aorist forms which reduplicate, but this is only for a handful of verbs in their regular conjugation, but is mainly used to form the aorist of the causative, a secondary verbal form. See the excursus dealing with reduplication.

[24] Of course, as an additional morpheme for the perfect the three ancient languages under discussion also show a different set of personal endings from the other tenses and voices.

So PROKOSCH says that the preterite plural forms of classes 4 and 5 definitely reflect IE lengthened aorists, and we have shown that indeed ancient IE languages show evidence that there may have been an IE aorist with length of the root vowel as a contributing distinguishing morpheme. Our next task is to look once again at the information from Germanic and see whether what we have learned from the lengthened IE aorist is of practical use in an evaluation of the Germanic preterite.

If we accept that the preterite plural vocalism of Germanic classes 4 and 5 has its cognates in an IE lengthened aorist, which is, as I hope to have shown, at least a possibility, then we must accept that Germanic uses morphemes and formations from different IE tenses in one Germanic tense, in just the same way as the Latin perfect.

Having thus justified the notion of lengthening in the Germanic preterite in terms of IE prototypes we should investigate why lengthening appears. Is there any motivation to explain why lengthening should appear instead of the expected reduction of the first three classes?

There is an important distinction between verbs of Classes 1-3 and those following the pattern of Classes 4 and 5: the root in Classes 4 and 5 verbs is shorter by one segment. The root structures are as follows:

	Class	1:	CeiC-
		2:	CeuC-
		3:	CeRC-, CeNC-
But:	Class	4:	CeR-, CeN-
		5:	CeC

Might this distinction be in some way responsible for the different ablaut pattern of the verbs in Classes 4 and 5?

The ablaut alternation pattern of the verbs of Classes 1-3 takes the form: full grade in the present tense, *o*-grade in the preterite singular form and reduced grade in the preterite plural and past participle. The first two of these find themselves in the ablaut alternation pattern of classes 4 and 5. In the reduced grade forms of Classes 1-3 the reduction takes the form of a loss of the /e/ of the full grade root and the subsequent syllabification of the following sonant segment. In Classes 1 and 2 this means that the second elements of the diphthongs /ei/ and /eu/, that is /i,u/, become the syllable carriers and thus full vowels rather than the diphthongal glides of the full grade forms. In Class 3, as I have pointed out, it seems that the nasal and liquid elements become likewise syllabic, so that the reduced grade in their case

consists of a Murmelvokal, /u/, and the liquid or nasal, /uR/ < /$_u$R/ < /R/. The ease of this development of the sonant segments in Classes 1-3 in becoming vocalic syllable bearers is no doubt facilitated by the following consonant. That the sonants after reduction find themselves between two consonants makes the transition to vocalic segments all the more reasonable and even predictable. Only in Class 3 does this vocalization (cf. samprasārana in Sanskrit) need supporting with a Murmelvokal. Germanic, unlike other IE languages, among them Sanskrit and the Slavic branch, it seems from the evidence, does not easily support nasals and liquids as sole bearers of syllabicity.

In speaking of Classes 4 and 5 the fact that the root is a segment short in comparison with Classes 1-3 is important. In Class 4 the consonantal root Auslaut of 1-3 is missing when reduction takes place so that the nasal/liquid is required to be both syllabic and provide a syllable boundary. This does in fact take place in the past participle, which follows the pattern of the first three classes.

Class 5 has no sonant segment, merely a non-syllabic consonant following the root vowel. As a result, if reduction were to take place in the way I have shown for the preceding classes, then the structure for class 5 verbs would be CC-. This is clearly difficult and, as it stands, no segment bears a syllable. BARNES/ESAU (1973, 7) state that Indo-European "had a general morpheme structure constraint such that

> Ø →*schwa secundum* /+C__C+"
>
> (i.e. between two consonants, each forming a syllable boundary, an absence of vowel becomes schwa secundum)

This constraint rests on the infallibility of the proposition that schwa secundum exists at all. BARNES/ESAU (*ibid.*, 5) cite HIRT (1931, I, 63) in which he proposes the existence of schwa secundum specifically to account for the "participial vowels *u* in [class] IV and *e* in [class] V". He does this by claiming that in the environment C__L/N schwa secundum becomes /u/ and in the environment C__C it becomes /e/. This is taken up by PROKOSCH (1939, 102) who assumes the same thing, it seems, for the same reason. This is neat, but fails to account for the lengthened grade in the preterite plural forms which have the same phonological structure as the past participle forms. A successful theory needs to account for the ambiguity between the preterite plural and the past participle forms.

An answer, or rather reassurance, may be found in the group of verbs called preterite-presents. The preterite-presents exhibit the same kind of ablaut relationships as the other strong verbs. They are in fact just as much strong verbs as those I have chosen to investigate. Morphologically, however, the preterite-presents behave like strong verbs only when they

refer to the present tense, elsewhere (that is for the preterite tense and for the past participle) they have developed weak forms with the dental suffix. In the present tense they show the same alternation between singular and plural as the other strong verbs in the preterite tense. For example, taken from Gothic:

Class	1:	*wáit*	*witum*	"know"
		láis	**lisum*	"know"
		áih	*áigum*	"own"
	2:	*dáug*	**dugum*	"be of use/good"[25]
	3:	*kann*	*kunnum*	"know"
	OE	*an(n)*	*unnon*	"grant"
		þarf	*þaúrbum*	"need"
		gadars	*gadaúrsum*	"dare"
	4:	*skal*	*skulum*	"shall"
		man	*munum*	"think"
	5:	*ganah*	**ganugon*	"suffice"
		mag	*magum*	"be able"[26]
	(6:	*ōg*	**agum/*ōgum*	"fear"
		gamōt	**gamōt*	"find room")[27]

The infinitives of preterite-present verbs have the root syllable of the present plural form (i.e. reduced grade).

Although the forms listed function in the present tense, one can see that their ablaut alternation pattern is directly comparable to that seen in the preterite tense formation of the strong verb system. Excepting *áigum*, which would appear to have levelled in favour of the singular vocalism, the other examples from the first three classes directly parallel the pattern for the strong verbs as seen in **5.2.1**. When we then look at the preterite-present examples from Classes 4 and 5, we begin to see something rather interesting. Certainly with *skal~skulum* and *man~munum*, verbs which have the same root structure as the strong verbs of Class 4, we can see that the alternation is not the same as that for the strong verbs of Class 4. Where the strong verbs have /ē/ in the plural alternant these two preterite-present verbs show reduced grade with /u/, i.e just the alternant one would have expected for the strong verbs too, and which they do in fact manage, as I have shown, for the past participle. It has

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[25] For plural form cf. OE *dugon*, OS *dugun*, OHG *tugun*.

[26] PROKOSCH (1939) assigns *ganah* to Class 5 and *mag* to Class 6; WRIGHT (1954), however, assigns *ganah* to Class 4 and *mag* to Class 5, but STAMM/HEYNE (1920) describe them both as belonging to Class 5 with the codicil that they originally belonged to Class 6, despite the participial evidence of *bi-naúht* from *-nah*; CAMPBELL (1959) has OE *geneah* in Class 4 and OE *mæg* as uncertain; BRAUNE (1987) has OHG *ginah* in Class 4 and *mag* in Class 5; both HOLTHAUSEN (1921) and GALLÉE (1910) have OS *mag* in Class 5; GORDON (1990) has ON *má* in Class 5. Following their consonantal root structure I shall keep them both in Class 5. There does not seem to me to be any cogent reason for ascribing **nah* to Class 4, and **mag*, despite being difficult to place etymologically, seems to be treated by speakers of the Germanic dialects in accordance with trends for the first five classes as I shall shortly outline.

[27] Added here purely to complete the list of preterite-present verbs.

been suggested that the preterite-present verbs reflect an early stage in the development of the IE verbal system. According to MEID (1970, 18):

> Die *Verba Praeterito-praesentia* [...] reflektieren als Gruppe die älteste Bedeutung des indogermanischen Perfekts, die des *Zustandes am Subjekt*. [...] Es ist nicht sicher, ja nicht einmal wahrscheinlich, daß alle dazu zählenden Verba nach Etymologie und spezifischer Semantik in die indogermanische Frühzeit zurückreichen; vielmehr sind es wahrscheinlich nur wenige Prototypen, die den Charakter der Kategorie im Germanischen oder Vorgermanischen begründet haben und denen sich andere Verba aufgrund ähnlicher semantischer, z.T. wohl auch formaler, Voraussetzungen angeschlossen haben.

One Germanic verb of this type which can be traced back to ancient prototypes is *wait~witum* "know" which has cognates in Greek οἶδα "I know", which itself is used with a meaning referring to the present tense but exhibits a form which has similarities with the perfect tense. Its personal endings are those of the perfect tense and it shows, in fact, an ablaut alternation between the forms of the singular and the plural.

Perfect indicative:

1 sing.	οἶδα
2	οἶσθα
3	οἶδε(ν)
2/3 du.	ἴστον
1 plu.	ἴσμεν
2	ἴστε
3	ἴσασι(ν)

This alternation mirrors what we have seen in other examples from Sanskrit and from the first three classes of the Germanic verbs where it was indicative, in the perfect and preterite respectively, of singular versus plural number. But as we have seen the preterite-present verbs are verbs which are used to describe situations in the present tense, a state of affairs which has led to their name. If we then suggest that the preterite-present verbs are, in fact, proponents of the IE perfect tense, in consideration of the fact that the alternation full~reduced grade is also an attribute of the perfect tense, then we have no alternative but to place the preterite-present verbs alongside the strong verbs. Our problem is that whilst the preterite-present verbs show this reduced grade formation in the plural, that is with /u/, the strong verbs have /ē/. Which of these is original? Is there a reason for the difference? What is the motivation for a change from one to the other?

It seems obvious that the forms with /u/ should be the more ancient of the alternants for the verbs with the root structure of Classes 4 and 5. After all this is the alternant one would expect when one takes into account the trend of the examples of the first three classes of Germanic verbs. It is also the alternant which a comparison with forms from Sanskrit suggests should be the case. But is this sufficient for identifying reduced forms as more

ancient? Possibly. The Greek example οἶδα shows that there is a case for the existence of a perfect formation in Indo-European which does not have reduplication. SZEMERÉNYI (1990[4], 314) suggests that οἶδα lost its reduplication at an early stage because it was a much used verb. The loss may also have something to do with the loss of the digamma *F* (/w/), so that **wewoida* became **(e)oida*. As SZEMERÉNYI points out there are several cases of the development of the perfect without reduplication in Indo-European, not least of them being Germanic itself in which we can clearly see the demise of this morphological tool. The seventh class verbs in Gothic appear to have reduplicated quite regularly, but by the time of the later dialects reduplication is seen only in a handful of relic forms.[28] This leaves us, however, with a problem. The Abstufung of οἶδα is clearly original compared with forms from Sanskrit, but the verb has already lost its reduplication. So on the one hand the verb is conservative but on the other it appears to be innovative. On the other hand reduplication need not be something original to Indo-European and the Gk. οἶδα need not be derived from earlier **wewoida*. Reduplication could be a later development and οἶδα is indeed a relic from an earlier period. PROKOSCH (1939, 187ff), however, holds a different position in saying that there were two distinct perfect formations possible in Indo-European.

> The IE reduplicated perfect denoted completed action, resulting in a present state. But in addition to this, there existed a perfect of identical morphological structure but without reduplication. With these the psychological emphasis lay on the state attained and not on the action of which it was a result. [...] The Gmc. languages have preserved this perfect type to a much greater extent than any other IE language. In fact, they doubtless added to this group in prehistoric times.

This point of view need not necessarily be in conflict with SZEMERÉNYI's in its usefulness, because a further consideration in explaining the lack of reduplication would fit in with both PROKOSCH's and SZEMERÉNYI's analyses. This consideration rests on the temporal signification of the preterite-presents (and οἶδα). As they refer to the present tense, the more obvious of the perfect tense signifiers, reduplication, was dropped (or resisted) as being not appropriate to a form now relating feelings/experiences in present time. The lack of reduplication is on the one hand (PROKOSCH) semantically bound to the type of perfect formation, and on the other (SZEMERÉNYI) is a result of the verb forms becoming identified with present time. Either of these explanations is compatible with our interpretation of the morphology involved in the preterite-presents and their cognates in conjunction with the inherent similarities with the strong verb system of Indo-European as a whole. And this interpretation has a bearing on the failure of the preterite-presents in Germanic to follow the development taken by the strong verbs of Class 4 and 5 in having /ē/ in the preterite plural forms. Because they are verbs which relate experiences in the present tense while using a form which bears more relation to features used in expressing past time, they become

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28 The difficult question of reduplication in the Germanic languages will be discussed when we examine the seventh class of strong verbs.

ossified. As present tense forms they occupy a different place in the verbal system from the true strong verbs, and as such are overlooked when the strong verbs develop new formations (cf. BARNES/ESAU 1973, 7-9).

This has shown that strong verbs of Classes 4 and 5 were, in fact, theoretically able to apply the principles of the first three classes of Germanic strong verbs in showing reduction as the preterite plural vocalism, either as /u/, or as /a/ </ə/. So why, then, did they later develop the vocalism /ē/?

We still do not have any motivation for the vocalism of the plural forms of the Germanic strong verb Classes 4 and 5. I have shown that the vocalism is possible in terms of the IE morphological inventory, but why it should turn up here, when there is a perfectly good alternative evidenced by the conjugation of the preterite-presents of Germanic, appears a mystery. For the moment I shall leave this unresolved and I shall go on to talk of the sixth class of strong verbs. In these verbs the role of length as an ablaut alternant is more starkly present, so that following a discussion of this class we will be in a position to throw some light on the nature of Classes 4 and 5.

5.2.3 Class 6

The divergences of Classes 4 and 5 - i.e. their use of alternants which do not conform to the patterns described for the first three strong classes which had clear resonances in Indo-European - seem small fry when taken in conjunction with the developments of the last two classes of strong verbs (6 and 7). I shall deal with them separately, not least because class seven has problems specific to it which require detailed and independent examination.

Our first problem in dealing with Class 6 is that examples from Sanskrit or Greek do not show any systematic correlation with the Germanic system. In Class 6 the conventions of the first five classes are left aside in favour of a different kind of ablaut alternation, or one with a different set of principles. The first five classes base their pattern on the structure: present ≠ preterite singular ≠ preterite plural (leaving aside the past participle for the moment); but class 6 has the pattern: present ≠ preterite singular = preterite plural. Let us look once again at some examples from Germanic:

**faran* "go/fare"	**fōr* "(he) went"	**fōrunþ* "(they) went"	**-faran* PP
**graban* "dig"	**grōb* "(he) dug"	**grōbunþ* "(they) dug"	**-graban* PP
**malan* "grind"	**mōl* "(he) ground"	**mōlunþ* "(they) ground"	**-malan* PP

From this scheme it would seem, at first glance, that there is a qualitative alternation between /a/ and /ō/. Things are not, however, as simple as this would suggest. We need to look at the

Germanic vowel system and compare it with the vowel system proposed for Indo-European. Indo-European is usually assumed to have had a set of five short vowels and five long vowels, along with a set of diphthongs, which we shall not discuss here but later in our discussion of class 7 and the mysterious /ē²/, except to say that the individual parts of these diphthongs develop into Germanic in the same way as the monophthongs. Thus the following scheme:

i	u	ī	ū
e	o	ē	ō
	a	ā	

This proposed IE system appears in its entirety in Greek where all ten occur, but in Sanskrit the system is modified because of the coalescence of the vowels /a,o,e/ in /a/. In Germanic the system is modified in a different way as a result of phonological changes and factors which affect that branch of the IE tree alone. The most pertinent of these changes for our purposes in investigating the nature of the sixth class ablaut alternation pattern is that which affects the low back vowels /a,o/ and their long equivalents. At an early stage in Germanic both the short vowels /a,o/ and the long vowels /ā,ō/ coalesced, so that from both pairs only one vowel remained, /a/ and /ō/. Some commentators (MEID 1971, 55; BORN 1980, 388) rather than giving them these specific qualities regard them both as having the quality of mid-low back vowels /å/ but with differentiation for length, so that in effect they are short and long equivalents of the same vowel quality. For the sake of symmetry this is expedient, but for practical purposes it is unnecessary. Let us look at the system we now have for Germanic:

i	u	ī	ū
e		ē	
	a		ō

The way I have positioned them here is meant to show that whether or not we wish to label them with the same quality, /å/, they are nevertheless long and short alternants of a vowel with the features [+low, +back]. It is quite possible that the coalescence of the sounds produced a vowel with the quality /å/, but in the later development of Germanic the short and long alternants develop unmistakably to /a/ and /ō/, cf. SONDEREGGER (1979, 80-84), SZEMERÉNYI (1990, 37-39) VAN COETSEM (1970, 39ff). The apparent gaps in the ten-vowel system were later filled as a result of other developments in the language group, but developments which were phonologically conditioned such as that of /u/ to /o/ when followed by low vowels except when prevented by an intervening nasal consonant.

This brief look at the Germanic phonological system has shown that the ablaut alternants in the sixth class can be seen to reflect a quantitative relationship rather than the qualitative one which a first look at the forms might have suggested. It seems that the whole principle of the verbs of this group is to produce its finite preterite tense forms using variation in the length of the root vowel. As a principle this is wonderfully concise and clear, but the question nevertheless remains as to the reason for this alternation pattern, one which is in contradistinction to the patterns we have observed for the first five classes (albeit with some exceptions). Also, can a precedent be seen elsewhere in Indo-European for the adoption of this patterning?

We saw in the last section that the use of vowel lengthening was a morphological tool available to and used in Indo-European and evidence was found for its specific use in the verbal system. We saw how certain aorist forms in Greek show lengthening. As a result, we accepted the possibility of vowel lengthening as a tense-distinction morpheme inherited from Indo-European. Thus we can theoretically justify the alternants in Class 6 since they consist merely of the present tense *a*-vocalism and the lengthened /ō/ of the two preterite forms. In this way the forms are as possible as those extraordinary forms we noticed in Classes 4 and 5. But justification is no explanation. We may have said that the forms are conceivable according to IE prototypes but that still does not answer the question as to why the forms are used at all. This is exactly the stance I took at the end of the previous section when I was discussing the verbs of the 4th and 5th classes. We must now propose reasons for the choice of alternants and the pattern the alternants take in the respective classes. The cogent reason for tackling these three classes together is that they all exhibit lengthened grade in one or more of their alternants and it is the motivation for the choice of length over reduction/Abtönung that I want to address, and it will be seen that the three classes have a bearing on each other in the motivation for this choice.

5.2.3.1 The Alternant Patterns of Classes 4, 5 & 6

In short the alternant patterns for these three classes are as follows (Pres. ~ Pret. sg. ~ Pret. pl. ~ PP):

4: e ~ a ~ ē ~ ø > u
5: e ~ a ~ ē ~ e

6: a ~ ō ~ ō ~ a

It can be demonstrated that the alternation pattern for Class 6 above is the only one possible for the verbs of this group when set against the inherent problems and constraints of the contemporary Germanic phonology. Abtönung with IE /o/ was not available to the verbs in this class because this /o/ had become /a/ in Germanic so that there would effectively have

been no ablaut alternation; all forms instead showing /a/. Reduction of the root vowel might have been an option but for the fact that the development might not have been uniform. Class 6 consists of verbs with root vocalism /a/ in the present tense followed by any consonant whether obstruent or resonant. If the reduction possibilities we noted in the preterite-present verbs were to have taken place in this class then there would have developed the two alternants /ə/ and /u/ respectively according to whether an obstruent followed (/ə/) or a nasal (/u/). However /ə/ would have developed to /a/ making this possibility an impossibility, or rather ending up with the same problem as *o*-Abtönung: no ablaut alternation for the preterite tense. It is perhaps conceivable that levelling could have taken place so that the /u/ variant, which would have appeared in those forms with nasal/ liquid following the root vowel, replaced the /ə/ forms. There appears, however, to have been some resistance to reduced forms in words with the structure: CVC-, whether or not the second C was a nasal/liquid. This is clear from the evidence in Classes 4 and 5 where, although Class 4 does manage reduced grade in the past participle, in the preterite plural it has the lengthened grade seen in Class 5 as well. The counter-evidence provided by the preterite-presents that reduction was indeed possible for verbs of both class 4 and 5, and thus of the phonological structure CVC-, is difficult, but as BARNES/ESAU (1973, 8-9) point out the differentiation between these two groups (strong verbs of Class 4 and 5 vs. preterite-presents) may be as a result of the re-analysis of the preterite-presents in the present tense and thus distinct from the other strong verbs. As often used verbs the preterite-presents, as I have said, probably became ossified in their formation, and without forms according to the strong present which would reinforce the morphological relevance of their ablaut alternation their conjugation was regarded as something different from that of the strong verbs. All of this is, of course, vain hypothesizing, but for a serious point. In order to understand why certain changes took place or why certain forms were adopted it is also necessary to consider what other possibilities there may have been and why these were not adopted. Why one form is *not* adopted can often be the reason why another *is* adopted, as we shall see. If Class 6 had followed the patterns in the first three classes, which as we saw in section **4.5** comprise an average of 56% of all Gmc. strong verbs, then we would expect *o*-Abtönung in the preterite singular form and reduction of the vowel in the preterite plural and the past participle. As I have shown these alternants are not possible for Class 6 as a result of morpheme structure constraints (BARNES/ESAU 1973, 9-11) just as in the similar forms from the preterite plural and past participle of Classes 4 and 5, or as a result of the lack of morphological differentiation between the present and the preterite forms. The only alternation strategy left for Class 6 that could have any morphologically meaningful function is to use length. In the same way length can be the only alternative left for the preterite plural forms of Classes 4 and 5. The difference between Class 6 on the one hand and Classes 4 and 5 on the other is that whereas Classes 4 and 5 can make use of *o*-Abtönung in

the singular preterite forms, as the pattern of Classes 1-3 dictates, for Class 6 this option is precluded because of the resultant lack of vocal differentiation between the present and preterite tenses. Thus Class 6 must utilize lengthened grade forms for the preterite singular as well as for the preterite plural.

Another consideration in a comparison of the lengthened grade alternants of Classes 6 and 4/5 is the quality of the lengthened vowel, and how this might be analysed. In class 6 as I have shown the quality of the lengthened grade vowel is essentially that of the present tense vowel in as much as they each represent a low, back vowel in the respective short and long vowel inventories. And because no other vowel is possible for an ablaut relationship in this class we are left with /ō/.

What about Classes 4 and 5? In these two classes the lengthened vowel similarly has the same quality as the present tense vocalism. Thus for Classes 4, 5 and 6 the alternation between present and preterite plural is essentially parallel:

preterite plural vocalism= present vocalism + length

It is in explication of this point that we can turn to the IE lengthened aorist formations that we saw earlier (**5.2.2**) when I justified the idea of length as a verbal ablaut morpheme in the IE verb system. The examples which I used, taken from Latin and Sankrit, showed clearly that the lengthened grade in these forms had as its vowel one which was a function of the present tense vocalism (*veniō, vēnī; chand-, acchāntsīt; pū-, apāvit*). It is true that in the Sanskrit examples the lengthened vowels are in effect adding a long /ā/ to the root vowel where this is different from /a/ itself, but a vestige of the root vowel appears in as much as /u/ is consonantized between vowels.

If we can assess the lengthened grade forms in terms of being functions of the corresponding present tense vocalism, can we equally assess the alternations in the first three classes in the same way? In class 1 for example, is the /i/ in the preterite plural indicative of reduction from the preterite singular vocalism /ai/ or of the present vocalism /ei/? At face value it could be seen as being either. However, we have established that the reduced grade/zero grade is a result of the position of the accent moving from the root to the suffix, as evinced in Germanic by the phenomenon known as grammatical change. This suggests that the preterite plural vocalism is a reduced form of the preterite singular. This might also have a bearing on the fact that in Greek those verbs that show *e/o*-Abtönung in the perfect tense have levelled so that the singular *o*-form appears throughout the conjugation, in contrast to Sanskrit which, although not exhibiting Abtönung, nevertheless retains the full/reduced grade alternation between singular and plural. What this means for Classes 4 and 5 is that one

might have expected the preterite plural forms to have been derived from the preterite singular vocalism since this seems to have been the principle in the inherited *e/o*-ablaut in Classes 1-3. An explanation of this apparent anomaly can be extracted from the differing motivations for the two forms: reduced grade and lengthened grade. In the case of the reduced grade forms the motivation is purely phonological. A reduced/zero grade vocalism appears as a direct result of the fact that the accent has shifted from the root to the suffix. There is, in effect, no motivation, but a regular phonetic process (cf. also Section **2.2.2.1**). On the other hand in the case of Classes 4 and 5 the vocalism is a result of a conscious re-formation of the preterite plural vowel after the expected reduced/zero grade was found to contravene syllable constraints as I have shown earlier (**5.2.2**). In this environment it is not surprising that the alternation pattern does not follow the phonetic trends of the first three classes. However, it would be well to consider some points about the IE aorist formations to discuss the proposition that the preterite plural in Germanic is a reflex of the IE aorist rather than the perfect, as PROKOSCH (1939, 160-164) would have it.

5.2.3.2 The IE Aorist and its Formal Bearing on the Germanic Preterite

In his Germanic Grammar, PROKOSCH, in speaking of the evolution of the Germanic strong preterite, gives the prevailing view at the time as being, essentially, that of Jacob GRIMM, that the Germanic strong preterite is a reflex of the IE perfect:

> **The Standard View**, if the consensus of opinion expressed by the great majority of historical grammars of the Germanic languages may be thus designated, considers the strong preterit essentially a direct continuation of the IE perfect tense. (PROKOSCH 1939, 160)

This view is based on the nature of the perfect's ablaut system which is directly mirrored in the preterite of the first three classes of the Germanic strong verb system. It is also generally agreed that the IE perfect endings for the singular are reflected in the singular endings of the Germanic preterite:

	IE	Gmc.
1.	-a	-ø
2.	-tha	-t [29]
3.	-e	-ø

Added to these two criteria is the fact of reduplication which is a usual feature of the IE perfect. This is reflected in the reduplicated forms we see in the Class 7 verbs of Gothic as

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[29] In WGmc., however, the second person singular ending in the preterite is *-i -e*, except in the case of the preterite-present verbs, which as we saw before, despite their formal identity with the other strong verbs, nevertheless seem to go their own way in certain things. The preterite-presents follow the Gmc. *-t* ending listed here.

well as in some of the relics from elsewhere in the Germanic group. Reduplication will be dealt with in detail later, it is enough here to say that it is a regular feature of the IE perfect.

So with these three features tallying with features we have noticed in Germanic, it seems fairly safe to assume that the IE perfect finds a reflex in the Germanic preterite. However there are problems with this view, as PROKOSCH's treatment shows.
In addition to the IE perfect plural, there is, as we saw in chapter 3, an IE aorist that also exhibits reduced/zero grade. In Greek it is called the 2nd or strong aorist and has the following form:

Pres.	2nd Aorist
φεύγω	ἔφυγον
λείπω	ἔλιπον
δέρκομαι	ἔδρακον[30]

It is therefore possible to view the reduced grade forms from Germanic as reflecting IE aorist forms rather than perfect forms. This is exactly what PROKOSCH proposes. If one accepts this interpretation then it becomes all the more possible to accept and understand the lengthened grade forms of Classes 4 and 5, because they too can reflect aorist forms. It is clear that there were several ways of forming the aorist tense in Indo-European, split chiefly into asigmatic and sigmatic forms. The second of these is used to explain the presence of Latin perfects with /s/ elements (e.g. *scrībō* "write", *scrīpsī*; *maneō* "remain", *mānsī*). But the radical vowel of aorist formations could vary depending on the formation, which means in effect that no one vowel or grade can be seen as indicative of or morphemic for the aorist tense in the way that the *e/o*-alternation appears to be for the IE perfect. This state of affairs has as its corollary, however, that a variety of different vocalisms can stand for the aorist. Thus either lengthened grade or reduced grade vowels can reflect an aorist, and we can see all preterite plural vowels as being aorist in source. This is neat and tidy and appears to explain the whole system and the problems especially in the 4th and 5th classes, but it overlooks one thing: the inherent alternation in the IE perfect between the singular and plural forms as a result of suffixal accent. It seems to me that this mainstay of the perfect tense cannot be denied in Germanic. After all VERNER's law supports the existence of suffixal accent at some stage in Germanic, and the first three classes reflect this structure particularly faithfully.[31] And yet up to this point it seems that any attempt to explain the lengthened grade forms in Germanic as perfects fails. However, a renewed look at the Sanskrit examples from the begininng of section **5.2.2** might shed some light on the problem.

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30 In Greek the syllabic liquid /r/ appears as αρ/ρα.
31 D'ALQUEN (1988) has much material on the relative occurrence of VERNER's law forms in the various strong verb classes.

I refer here particularly to the roots *pac-* "cook", *sad-* "sit", *tan-* "stretch" and *yam-* "reach". These exhibited the following paradigms:

pac "cook"	*papāca* "he has cooked"	*pecúr* "they have cooked"
sad "sit"	*sasāda* "he has sat"	*sedúr* "they have sat"

and also:

tan "stretch"	*tatāna* "he has stretched"	*tenúr* "they have stretched"
yam "reach"	*yayāma* "he has reached"	*yemúr* "they have reached"

The first two verbs correspond in structure to the Germanic verbs of Class 5, and the second two to those of Class 4. In the Sanskrit perfect we expect reduplication throughout, full grade or lengthened grade in the singular forms and reduction/zero grade elsewhere. But for these four verbs this expectation is only borne out in the perfect singular forms. These are formed exactly as verbs with root structures corresponding to the first three Germanic classes. But in the perfect plural forms something strange seems to have happened. There appears to be no reduplication, and the vowel is not reduced, but rather strengthened to *e*, which reflects the diphthong /ai/. The conditions under which this particular alternation occurs are that the verbal root has /a/ followed by a single consonant, and that this single consonant must remain unchanged in reduplication. The verbs therefore must have the structure CaC-, a structure which mirrors that which we have in the verbs of classes 4 and 5.

In the older Vedic texts there are forms which more directly correspond to the type one would expect, and these are:

paptimá "we have cooked"
tatné "he has stretched for himself"
mamnāte "those two have thought for themselves"

These show what is expected for the normal formation of the Sanskrit perfect tense. The question is now to identify the process by which these "normal" formations become those without reduplication. An answer is to be found in the verbs of the type *sad-* and *yam-*, that is those with a sibilant or those beginning with /y/. The loss of /s/ before voiced obstruents is a regular phonological process in Sanskrit so that the following development takes place: **sasdimá* > **sazdimá* > *sedimá*. And in the case of *yam-*, the development would follow the lines of *yaymimá* > *yemimá*, according to the principle of samprasārana whereby *ay* before consonants regularly becomes *e*; Skt. /ay/ and /e/ are seen as allophones, the former occurs before a vowel and the latter before consonants. These phonologically normal and almost expected changes then analogically affect those verbs with similar root structures. On the face of it this would seem an acceptable model for our lengthened preterites for the 4th and 5th classes, yet there are nevertheless problems. The first is the nature of the vowel /e/ in Sanskrit in contrast with /ē/ in Germanic. We have already seen that the IE vowels /ā,e̅,o̅/ coalesce in Skt. /ā/, so that there is no /ē/; and we have seen that Sanskrit /e/ is also not a

short vowel, because IE /a,e,o/ coalesce in /a/. It is the result of the diphthong /ai/, which although not a pure long vowel is nevertheless long in contrast to the short vowels. In this way it could be a model for the Germanic lengthened preterites, especially as they occur in the same place in the conjugation and perform similar functions. A second problem is that if we accept these shortened Sanskrit perfects as a model for the Germanic lengthened preterite we are forced to accept the notion of reduplication among a greater number of Germanic strong verbs than that for which there is evidence. Only Gothic shows incontrovertible evidence of reduplication. And, in addition, if lengthened preterites are derived from contracted reduplicated forms, then we could end up with a problem when considering the nature of the vowel /ē²/ as a replacement for reduplication in the verbs of Class 7.

PROKOSCH (1939, 163) claims that if Germanic followed the same kind of development as the Sanskrit contracted perfects, then Gothic would show up the form **sistum* rather than the actual *sētum*. In fact this would only be the case if the contraction of the reduplication syllable with the root syllable took place after the shift of accent in these forms from the suffix to the root. If the contraction took place before the shift of accent, then the development to *sētum* is possible if odd.

What we see is that there are indeed two possibilities of prototypes for the Germanic lengthened preterite: IE lengthened aorist, or IE perfect. The former makes lengthening secondary, replacing a former reduction among verbs of this type, in keeping with the principle of the IE perfect, with lengthening according to a different IE principle which was more appropriate to the phonological environment of the root. The latter explanation has lengthening primary and the result of sequential phonological processes.

If we accept that the point at which Germanic broke away from the IE tree of languages was at a time when Indo-European was at its morphologically most complex, as seen in the systems of Sanskrit and Greek, then the simplification that has since taken place in the Germanic branch has a large pool of material which it can reflect. As the simplification process progressed it is perfectly conceivable and likely that tense systems which in the complex stages of Indo-European were discrete became confused and encroached on one another. If in Germanic the expression of past time was equally provided by earlier perfect as well as aorist formations, then there is very little in choosing one over another as standard. Whichever is phonologically more appropriate will endure. That the reduced grade perfects did not endure in Germanic Classes 4 and 5 is because that alternation pattern was incompatible with the phonology of the dialect. However, that the first three classes of Germanic strong verbs have continued so faithfully the IE perfect formation seems to me to speak against the proposal that the Germanic preterite is such a neat hybrid of perfect and

aorist forms, in the singular and plural respectively, as PROKOSCH's analysis would have it. That the reduced perfect forms, on the other hand, can be interpreted as reduced aorist forms is important. Especially having taken into consideration the lack (or loss) of reduplication in the first six classes and the fact that there is no evidence of there having been in Germanic a reflex of the aorist/imperfect augment of Sanskrit and Greek, we see that the reduced aorists and perfects, if indeed the former endured at all, would eventually have come to resemble each other in their predesinential components. With such a coalescence of forms it is possible to concede that the lengthened aorist forms became identified with the perfect system as a result of their sister aorist formations' having already been assimilated. Any specific functions of the aorist in opposition to the perfect would, by this stage, have become, for practical purposes, moribund. In this kind of situation it is conceivable that the lengthened aorist formations found a home, or at least a use for their lengthened component to be put to. This use was as the ablaut alternant for the preterite plural forms of Class 4 and 5 verbs, for which it seems reduced grade had become phonologically unacceptable as I have earlier shown.

From the point at which lengthening becomes acceptable in the strong verb system of early Germanic it can become productive. In the first three classes of Germanic strong verbs the degree of cognateness of the individual verbs with other verbal forms elsewhere in Indo-European is great, but among the verbs of class 6 this relationship is small and there are only a few verbs which have distinct verbal cognates in other IE languages with consistent vocalism. As has been explained in the previous section, Class 6 verbs had no other choice left open to them but the alternation which they do, in fact, exhibit, which is lengthened grade. With Class 4 and 5 verbs having adopted the lengthened grade from the evanescent lengthened aorist formations, Class 6 verbs could analogically use the alternation in their conjugation. Being to a large extent purely Germanic verbs and with a present vocalism unlike the other classes, they also required an alternant for the singular too, and the lengthened grade option was again the only possibility. In this way the lengthened grade was extended to the 6th class of verbs having first been adopted by verbs which did have IE cognates. The lengthening process thus acquired a legitimacy in the preterite system of Germanic, so that it could be extended. Such extension has a bearing on the pattern of alternants in the 7th class which will be dealt with separately.

It will have been noted that the above analysis of the lengthened grade resembles to some extent that of BARNES/ESAU (1973), but there have been re-interpretations, which do not feature in BARNES/ESAU, of the role played by the aorist in the composition of the Germanic preterite. BARNES/ESAU take their lead from PROKOSCH, who sees the preterite as reflecting, in the singular, the IE perfect and, in the plural, the IE aorist. They cite

PROKOSCH's view as "quite convincing" but acknowledge that the "aorist origin of the zero grade plural is not universally accepted" (6). Those not accepting the role of the IE aorist are KRAUSE (1968) and KURYŁOWICZ (1956). KRAUSE denies the role out of hand, whereas KURYŁOWICZ regards the importance of lengthened grade forms as not widespread and discusses them, where they do occur, as dialect specific. If indeed the development of lengthened grade forms is one which is confined to the individual dialects, as KURYŁOWICZ and WATKINS (1958), in his review of KURYŁOWICZ (1956), claim, my analysis is unaffected except in the motivation for the adoption of the lengthening. If the lengthening itself is dialect specific then the motivation must also be dialect specific. What the motivation might be in this case I cannot say, although BARNES/ESAU (1973, note 7) suggest that the IE progenitor of the lengthened grade, the root aorist, was from an "older state of the language, which had for some reason lost its productiveness". In this case it can be re-assessed and utilized in later stages of the language, for which the original function is lost, for other functions such as the Germanic preterite.

We have seen that the Germanic preterite vocalism of Class 4 and 5 verbs has possible proto-types in both the IE aorist and also in the IE perfect. In keeping with a tense which appears to derive most of its formations from the perfect tense, it would seem appropriate to regard more highly an explanation which uses the perfect tense as the solution. However, as I have pointed out this provides us with problems, not least in assessing when exactly reduplication was dropped in Germanic - if indeed the entire verb system used it at all. A solution bearing on the aorist heritage of the lengthened forms seems, from this point of view, more acceptable, and, with verbs unable to show reduction because of morpheme structure constraints, lengthening is the only practicable way of signifying past tense forms by use of ablaut alternations.

This has dealt with the lengthened grade forms in Classes 4, 5 and 6 but has left a detailed look at the phonological structure of the respective past participles of these classes out of account. This is the next task.

5.2.3.3 The Past Participles of Classes 4, 5 and 6

The past participles (PP's) of these three classes present a problem because their forms seemingly contradict one another. As I pointed out earlier, the past participles of Classes 4 and 5 are incompatible. In Class 4 the PP has reduced/zero grade vocalism in keeping with the scheme of the first three classes, where the PP also has reduced grade. It is also in keeping with the preterite plural forms we saw for the preterite-present verbs with Class 4 structure. But it contradicts what we have seen for the preterite plural form of Class 4. If the class were to be consistent with the first three classes, then reduced grade would have

appeared in both forms. It does not, as we have seen. Similarly in Class 5 there is inconsistency between the preterite plural vocalism and that of the PP. How can these inconsistencies be accommodated in the present analysis?

BARNES/ESAU's explanation (1973, 10) is to differentiate between the preterite plural and the participial formations on the grounds of the motivation for the development. The re-analysis of aorist forms to take up the post of preterite plural is a morphological development.

> The formation and reanalysis of the preterite plural from Indo-European aspectual forms represented a purely morphological process, resulting in the selection of a single lengthened grade aorist pattern for the two classes. In the participle, however, the phonological shape of the root determined the Germanic vowels, leading to the introduction of the present tense vowel to class V already at the level of Indo-European. The participle of class IV, however, underwent the same change as other resonants on the basis of its phonological environment. (10)

This all seems to create problems. If the development of the participles proceeded along phonological lines in Indo-European (that is, the syllabification of the resonant in Class 4: *nm-* > *num-*; and the reduction to schwa secundum in Class 5 or the introduction of the present tense vowel: *gʰb-* > *geb-* or *gb-* > *geb-*), it becomes difficult to understand why the preterite plurals did not do the same. The answer might very well lie in morphological considerations. The fact that the PP is non-finite in contrast to the preterite forms is, I think, decisive. The root structure of Class 4 and 5 verbs does make reduction to zero grade forms phonetically undesirable, because syllabification is difficult and the preservation of morpheme boundaries becomes jeopardized. But this is more important a consideration in the finite preterite plural forms. In Germanic the ablaut alternation for the preterite tense is important for its tense distinguishing function and to a lesser degree for its number-distinguishing function, in the PP neither of these functions are carried out by ablaut. The preterite tense is an integral part of the tense system but the verbal adjectives are more peripheral. As SZEMERÉNYI (1990, 351) writes:

> Während die Bildungen auf *-nt-*, *-wos-* und *-meno-/-mno-*[32] trotz früherer nominaler Verbindungen im Idg. fest in dem Verbalsystem verankert sind, gibt es einige weitere Bildungen, die nur lose dem Verbalsystem angegliedert waren. Besonders wichtig im Verlauf der Geschichte der Einzelsprachen wurden die Suffixe *-to-* und *-no-*[33], die als Verbaladjektiva schon zu spätidg. Zeit eine bedeutende Rolle spielten.

Its peripherality, I feel, allows the PP to be able to bear structures which are difficult in finite tenses, in this way the past participles can develop as those in the first three classes. So the PP of Class 4 syllabifies its nasal/liquid and has reduced/zero grade in the same way as class

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32 Respectively non-finite suffixes for present tense, perfect tense and medio-passive.

33 The first of these is generally accepted as the form of the weak past participles in Germanic, the second as that of the strong past participles and thus the one of importance to the present survey.

three syllabifies between the Anlaut and Auslaut of the root. The Class 5 PP is open to two interpretations. The first and the one held by PROKOSCH and others is that the PP derives from a reduced form *gьb-* with schwa secundum which before nasals became /u/ (which is another way of describing the reduction in Class 4 PP's) and elsewhere became /e/. The only examples of this latter development > /e/ seem to be taken from Class 5 preterites so that the whole explanation begs the question. This may well indeed be the development but invoking schwa secundum seems to be unnecessarily complicating matters. The second view, held, among others, by BARNES/ESAU follows the reasoning that if the string *gb-* contravenes Germanic syllable structure, an epenthetic vowel becomes a necessity. The choice of the present tense vowel is a result of analogy and has an acceptability in regard to the well-formedness of the ablaut alternants. The fact that the vowel that ends up in this position is /e/ and is identical with the vowel found in the present tense forms is important, because in Class 6 it is this analysis of the situation which leads to a PP which also has the vowel of the present tense. That, as I have already said, Class 6 verbs are on the whole Germanic means they develop their morphology from forms already existing elsewhere in the language. That is they borrow their morphology rather than having a ready-made one when they enter the lexicon.

To clarify and re-iterate: in that the PP is non-finite it can appear with a structure otherwise difficult for finite forms which must carry a greater semantic load. Following from this the PP's of Classes 4 and 5 develop reduced/zero grade forms. In Class 4 acceptance is gained through the syllabification of the resonant, in Class 5 an epenthetic vowel is required for which the present tense provides the model. From this state the development of the 6th class of verbs has a model in Class 5 for a PP with present tense vocalism which it in turn and analogically adopts.

5.2.4 The Reduplicating Verbs of Germanic (Class 7)

5.2.4.1 General Remarks on the Class

The reduplicating class of Germanic strong verbs comprises verbs which between them exhibit phenomena that are the least readily explained in the entire Germanic verbal system. For this reason, of all the work completed on the strong verbs of Germanic, it is this class which has received most attention from scholars. The problems stem from the fact that the class of verbs is not treated uniformly in the various Germanic dialects. Whereas the first five classes on the whole show consistency throughout the Germanic branch (except for some verbs turning up in different classes, that is adopting different ablaut patterns), the verbs of Class 7 show differing patterns according to the dialect of Germanic in which they find themselves. The main split is between East Germanic on the one hand and North and West Germanic on the other. East Germanic, in the guise of Gothic, shows reduplication in

all the verbs in this class; in fact it is for these verbs that the class is grouped together at all. All of the verbs of the seventh classes throughout Germanic are categorized as such because the cognates in Gothic reduplicate in forming their preterite tense alternants. In the other dialects, as we have seen in the preceding sections of this chapter, an ablaut relationship is utilized. But as in Class 6 it is an ablaut relationship not evidenced in other IE language groups. As I have shown, for Class 6 and for Classes 4 and 5, the peculiarities could be ascribed to extension of existing ablaut patterns and mechanisms, even though the resultant alternation pattern may not have existed in Indo-European. That is, existing grades and alternants were re-assessed and used in environments and for functions for which they were not used in Indo-European. It is the function of this section to see whether this can also be said of Class 7. The specific problems of Class 7, as distinct from those occurring in the first 6 classes, relate to the problem of the existence of reduplication in Gothic. In addition there are a few scattered examples of forms from the other Germanic dialects which suggest that reduplication was not confined to Gothic, but that at an earlier point in the history of the Germanic branch reduplication was widespread in the verbs now ascribed to Class 7. This understandably raises the question whether reduplication was used at an earlier stage in Germanic to form the preterite of all strong verbs, perhaps even all verbs. There is no evidence on which to base such an assumption so that such a proposal is as provable as it is unprovable. Nevertheless we are left with an interesting dilemma: why was reduplication retained only for those verbs we see in Gothic?

5.2.4.2 Inventory and description of Class 7 verbs and their preterite formations

We saw in chapter 4 how Class 7 verbs form their preterite tense in the various dialects, from which, in Table 1, reduplication was taken as the original formation for the preterite of these verbs on the grounds that Gothic represents the earliest evidence of any Germanic language and also because of the relics in other Germanic languages which suggest that reduplication was more widespread. It is, however, apposite at this point to remind ourselves of the various dialectal treatments of the verbs in this class and also to list the verbs which we ascribe to this group so that we can look at the spread of verbs in more detail. (The appendix lists all Germanic strong verbs in the conventional classes to which they are traditionally ascribed; it also gives information on the rarity of the verbs and whether or not they appear in all tenses). The various theories that have been proposed to explain the nature and development of the seventh class often rest on phonological and/or morphological processes that occur in just one or two verbs, so that an understanding and intimate familiarity with the verbs which comprise the class is desirable and facilitative.

Gothic	OE	OS	OHG	ON	Meaning
-aikan			*eichan*		"deny/vindicate"
				**eika*	"rush"
-alþan				**alþa*	"grow old"
arjan			*erren*		"plough"
	**ēadan*	**ōdan*		**auða*	"grant"
aukan	**ēacan*	**ōkan*	*auhhan*	*auka*	"increase"
				ausa	"create"
	bannan	*bannan*	*bannan*		"summon"
	bēatan		*bōzan*	*bauta*	"beat"
			bāgan		"fight"
blandan	*blandan*	**blandan*	*blantan*	*blanda*	"mix"
	blāwan		**blahan*		"blow"
-blēsan			*blāsan*	*blása*	"blow"
	blōwan				"bloom"
blōtan	*blōtan*		*bluozan*	*blóta*	"sacrifice"
bnauan			**nūan*	*gnúa*	"rub"
bauan	*būan*	*būan*	*būan*	*búa*	"live"
	**brædan*	**brādan*	*brātan*		"roast"
		**brōkan*			"fashion from wood?"
	**dēagan*		**tougan*		"hide"
	drædan	*drādan*	*-trātan*		"fear"
faian					"rebuke"
			**falgan*		"bend?"
	feallan	*fallan*	*fallan*	*falla*	"fall"
			**falzen*		"beat"
**falþan*	*fealdan*		*faldan*	*falda*	"fold"
fāhan	*fōn*	*fāhan*	*fāhan*	*fá*	"catch"
				**fúa*	"rot"
	flōwan				"flow"
**-flōkan*	*flōcan*	*flōkan*	*-fluohhan*	**floka*	"beat"
fraisan					"tempt"
gaggan	*gangan*	*gangan*	*gangan*	*ganga*	"go"
	glōwan				"glow"
grētan	*grætan*	**grātan*		*gráta*	"cry"
	grōwan			*gróa*	"grow"
haitan	*hātan*	*hētan*	*heizan*	*heita*	"(be) call(ed)"
*(*hiufan 2)*	**hēafan*	*(hioban 2)*	*(*hiofan 2)*		"mourn"
haldan	*healdan*	*haldan*	*haltan*	*halda*	"hold"
hāhan	*hōn*	*hāhan*	*hāhan*	*hanga*	"hang"
	hēawan	**hauwan*	*houwan*	*høggva*	"hew"
-hlaupan	*hlēapan*	**hlōpan*	*loufan*	*hlaupa*	"run/leap"
	**hlōwan*		**lōwan*		"low"
	hrōpan	*hrōpan*	*ruofan*		"call"
	**-hwātan*	*-hwātan*	*(h)wāzan*	*hváta*	"push"
hwōpan	*hwōpan*				"threaten"
	hwōsan				"cough"
	clāwan			(*klá* 6)	"scratch"
	cnāwan	*-knēgan*		*kná*	"know"
	crāwan				"crow"
laikan	*lācan*			*leika*	"play"
**laian(lauan)*					"revile"
-lētan	*lætan*	*lātan*	*lāzan*	*láta*	"let"
maitan			*meizan*		"cut off"

	māwan				"mow"
	**nēapan*				"overwhelm"
**-praggan*					"press"
	**rāwan*				"put in rows"
-rēdan	*rædan*	*rādan*	*rātan*	*ráða*	"counsel"
			**rāchan*		"devote o.s."
	rōwan			*róa*	"row"
saltan	*sealtan*		*salzan*		"season"
saian	*sāwan*	*sāian*	*sāan*	*sá*	"sow"
skaidan	*scādan*	*skēdan*	*skeidan*		"separate"
		skaldan	*skaltan*		"shove"
		**skannan*			"roar"
			scrōtan		"cut"
slēpan	*slæpan*	*slāpan*	*slāfan*		"sleep"
				snúa	"wind"
				sóa	"sacrifice"
	spātan				"spew"
			spaltan		"divide"
	spannan	**spannan*	*spannan*		"stretch"
	spōwan				"succeed"
staggan					"stab"
-staldan	**stealdan*				"own"
stautan		*stōtan*	*stōzan*		"push"
	swāpan	**swēpan*	*sweiffan*	*sveipa*	"swing"
	swōgan	*swōgan*			"overwhelm"
			zeisan		"pluck"
tēkan					"touch"
-þlaihan					"cherish"
	þrāwan				"throw"
	**þrōwan*				"thrive"
(wahsjan 6)	*wēaxan*		*(wahsan 6)*	*(vaxa 6)*	"grow"
waldan	*wealdan*	*waldan*	*waltan*	*valda*	"wield"
	wealcan		**walkan*		"roll"
	weallan	*wallan*	*wallan*		"well/roll"
			walzan		"roll"
waian	*wæwan*				"blow"
	wascan	*(*waskan)*	*(waskan)*		"wash"
			**-wāzan*		"blow"
	wēpan	*wōpian*	*wuofan*		"weep"
	wrōtan		**ruozzan*		"burrow"
38	**62**	**35**	**52**	**35**	TOTAL No. **93**

As has been explained before the paucity of forms in Gothic is a direct result of the lack of wholescale evidence from this dialect, but nevertheless, Gothic plays a very important part in explaining (or obfuscating) the seventh class, both because of the reduplication seen in the verbs, and also because some of the verbs exhibit an ablaut relationship between present and past as well as reduplication. For some Gothic verbs therefore the preterite tense is oversignified in comparison with other verbs and verb-forms in the Germanic group of dialects. The verbs which apply this oversignification are not terribly numerous but their existence *is* of import. The verbs are:

grētan	"weep"	*gaígrōt*
lētan	"let"	*laílōt*
-rēdan	"reflect upon"	*raírōþ*
tēkan	"touch"	*taítōk*
saian	"sow"	*saísō*
waian	"blow"	**waíwō*
**laian*	"revile"	**laílō*

These verbs, then, represent seven out of 38 verbs of the Gothic reduplicating class (18%). In comparison to the verbs we looked at from Greek and Sanskrit in Chapter 3, these few correspond very well to what we found there. In purely descriptive terms these Gothic verbs display all of the criteria that distinguish the IE perfect tense in Sanskrit and Greek. They show reduplication, which, in the excursus, we shall see had become a compulsory, or rather, distinctive feature of the Greek and Sanskrit perfects, with only a very small number of exceptions of perfects without reduplication. However, reduplication, in both of these languages, was not necessarily a preserve of the perfect; although in Greek it can be said that the perfect was the only tense which showed reduplication with the vowel /e/, in Sanskrit reduplication could occur in any tense and was therefore not a perfect morpheme in itself, but had the effect of acting cumulatively with other distinguishing features to denote the perfect tense. The verbs also show an ablaut relationship, which we saw was common to the perfect tense in Greek and Sanskrit, although in Greek this ablaut relationship is seen in only a few verbs, and Sanskrit is confined to Abstufung rather than the Abtönung we see in Gothic. And finally the verbs also show distinctive endings for the perfect tense in the same way as the IE perfect does.[34]

On the face of things, however, these seven verbs represent a group of odd verbs in Gothic within another odd group of verbs, none of which conform to the patterns we see in the strong verbs of this class in the other Germanic dialects. Let us consider the evidence from the other dialects once more before tackling the problems, offering solutions, and appraising existing solutions.

To sum up, all the Gothic verbs in Class 7 show reduplication, but seven of them, specifically those with a long *ē* = /ē/ or the digraph *ai* representing an open long /ē/, have an ablaut relationship between the present/PP on the one hand and the preterite sing. and pl. on the other.

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34 In Greek and Sanskrit three sets of endings are utilized in the active voice. The primary and secondary sets are used in the present and aorist tense respectively and differ from each only in so far as the secondary endings do not end in *-i*. The perfect has its own set which differs considerably from the two other sets. E.g. Gk. Primary: -μι, –σι, –τι, –μεν, –τε, –ντι; secondary: –ν, –ς, –Ø, –μεν, –τε, –ν(τ); Perfect: –α, –θα, –ε, –μεν, –τε, –ασι.

In Old English the normal pattern for the formation of the preterite in the 7th class - and it is important to remember that the verbs in this class are treated together only because their Gothic cognates show reduplication - is to use ablaut. There are two types of preterite vocalism used for the verbs in this class, namely /ē/ and /eo/. The distribution of one form to the other depends on the phonological structure of the root of the verb and is as follows:

Preterite Vowel	**Root Structure**
/ē/	CāC- CǣC- Cō- (contracted forms *hōn, fōn*)
/ēo/	CaNC- CeaLC- Cāw- CēaC- CōC- Cū-

Can we infer anything from this distribution of root structures and preterite vocalisms? Are there generalizations to be made that are helpful for the enquiry at hand? Let us consider Old High German and Old Saxon first as well as Old Norse to see whether there is a generalization which fits them all. We must remember that in Gothic the preterite forms differ from one another only in the morpheme used to produce them, most of them using reduplication only, but a small group adding ablaut to reduplication. In the forms we have for Old English the relationship between the two preterite formations is more involved. Both represent ablaut relationships with the alternant of the present tense, i.e. only one morpheme, that of vocalism alternation (ablaut), is used to identify the tense. But the reason governing the choice of one of these vowel alternants over the other appears to lie in the phonological structure of the root syllable of the verb. No one root structure exhibits both types of ablaut alternation. There is a clear delineation. The problem is whether this delineation can be said to be motivated by phonological factors. Is there a phonological reason for one structure having a particular alternant in the preterite tense? For the moment I shall leave this problem unsolved, but it should be borne in mind as we consider the situation in the other Germanic dialects.

Similarly in Old High German there are two possible alternants which verbs belonging to the 7th class can utilize to form their peterite tense. We find either the ablaut alternant *ia* /ia/ or *io* /io/. The distribution of the two forms is as follows:

Preterite Vowel	Root Structure
/ia/	CaRC- CāC- CeiC-
/io/	CouC- CōC- CuoC-

Just as in OE the OHG forms show a delineation in the choice of one alternant over another in the phonological structure of the root syllable. Let us move on and discover whether the same is the case in Old Saxon. Here we see, however, that there are three possible alternants that can be used to form the preterite tense but again their distribution has something to do with the phonological structure of the root syllables, as follows:

Preterite Vowel	Root Structure
/e/	CaRC- Cāh- (contracted from -anh-)
/ē,ie/	CāC- Cāi- CēC-
/eo,io/	CōC- Cauw-[35]

In Old Saxon the appearance of an alternant /e/, in addition to the other two, is explained in the handbooks as being a shortening of a long /ē/. If this is the case then it is possible to place these verbs alongside those verbs with /ē,ie/. This is strengthened by the fact that the contracted verbs *fāhan* and *hāhan* both show forms with /ie/ as well as with /e/.

Our last dialect, to which we look for evidence in an explanation of the 7th class preterite forms is that of Old Norse. The examples from Old Norse show, however, an altogether more complex system than we have seen in the 7th class forms of OE, OHG and OS. As well as ablauting forms corresponding to the development in the rest of non-East Germanic there are also forms which seem to correspond to the reduplicating forms we have seen for Gothic. The verbs which show this reduplicated formation are all verba pura, that is verbs which have a long vowel as part of their root structure and which do not have a consonantal syllable boundary between the root and the conjugational endings (e.g. ON *sá*, OE *sāwan*,

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35 This is, however, quite a difficult one. There is only one verb which fits this structural description: hauwan. GALLÉE (1910) puts it with those verbs which show /eo,io/ in the preterite tense, but HOLTHAUSEN (1921) puts it alongside those with /e/. The extant preterite form for this verb is *heu* which, as one can see, defies neat allocation. Clearly the appearance of the back vowel /u/ suggests that it represents original /o/ raised as a result of an original following /w/. On the other hand the /u/ could be a remnant of the consonant boundary role of /w/, so that the preterite vowel can be seen as /e/ rather than */eo/ > /eu/ in the case of the former explanation. Either explanation is tenable. The lack of similar examples makes a conclusive solution impossible.

Go. *saian*). However, what is interpreted as a reduplicated formation, seems, at a synchronic level, to be rather a case of a preterite suffix, *er*. Let us consider in the same way as before for the other dialects how the different ablaut vocalisms are spread across the phonological structures for the roots of the verbs of this class. These are as follows:

Preterite Vowel	**Root Structure**
/e/	CaCC- Cā-
é = /ē/	CāC- CeiC- CōC-
jó = /jō/	CauC- Cøggv- Cū-

As for Old Saxon, Old Norse has three possible vocalisms, which correspond well to those found in Old Saxon: a short /e/ a long /ē/ and a diphthongal segment which begins [-low, + front] and ends [- low, + back].

If we collate this information into one table, we will be able to see more clearly what correspondences there are:

Table 9: Distribution of Class 7 Ablaut in West and North Germanic

Common Germanic root structure in the present	**Pret. with /e/**	**Pret. with /ē, ia, ē²/**	**Pret. with diph-thong cont. /o/-element**
CaiC		CāC(not /w/)- *OE*	
		CeiC- *OHG, ON*	
CauC		CēC- *OS*	CēaC- *OE*
			CouC- *OHG*
			CōC- *OHG, OS*
			Cauw- *OS*
			CauC- *ON*
CaRC		Cō- *OE*	Cøggv- *ON*
			CaNC- *OE*
			CeaLC- *OE*
	CaRC- *OS, ON*	CaRC- *OHG*	
	Cāh- *OS*		
	Cā- *ON*		
CēC		CæC- *OE*	
			Cāw- *OE*
		CāC- *OHG, OS, ON*	
		Cāi- *OS*	
CōC		CōC- *ON*	CōC- *OE, OS*
			CuoC- *OHG*

One important caveat is necessary before we can draw any conclusions from this, and that is perhaps the self-evident one that the information it provides is of necessity taken from languages attested at a considerably later stage in the history of the Indo-European languages than that provided by (say) Sanskrit, Greek or Latin, a stage when changes specific to the Germanic languages have taken place. To that extent at least, given that the purpose of the present investigation is to analyse the degree to which Germanic verbs utilize patterns from Indo-European, or whether they innovate patterns of their own, the evidence of the above table is limited. Nevertheless, I believe it has its uses, and these I will now discuss.

What the table tells us is that for the first two groups of verbs from this class, that is for the verbs with root vocalism /ai/ and /au/ in the present tense, the distinction in past tense

vocalism is clear. For those verbs that have the Germanic structure CaiC the past tense vocalism is a long /ē/, and in the case of OHG the diphthong /ia/, about which we shall speak later in a discussion of the vowel /ē²/. And for those verbs which have the Germanic structure CauC the preterite vocalism contains an *o*-element. This pattern also seems to be the case for the roots with /ē/ and /ō/. The former show a long /ē/ segment and the latter a diphthong with an *o*-element, if we overlook the problem of *blóta,* "sacrifice", in Old Norse and the verba pura from Old English with Germanic /ē/ (*blāwan* "blow", *cnāwan* "know", etc.). These last from Old English, it would appear, form their preterite tense with OE /ēo/ possibly in analogy with those verba pura in /ō/, and it would seem justified to suggest that the presence of the *w*-segment might be a contributing factor in the appearance of the *o*-element in the past tense diphthong.

This leaves us with the group of verbs which have Germanic /a/ as the present tense root vocalism and which are followed by a nasal or liquid element followed by a consonant, a group which also contains here those verbs which derive from the Germanic /anχ/ but which in the various dialects contract in the present and infinitives to forms with the shape: Cō- in OE & OHG, Cā- in ON and Cāh- in OS (all corresponding to the Gothic verbs *fāhan* and *hāhan*). In the preterite tense of these contracted verbs the nasal element is restored and the Germanic /χ/, having undergone the effects of VERNER's Law appears as /g/ in all of the dialects except Gothic which does not generally show the effects of VERNER's Law in the verb system.[36] If we ignore for a moment the uncontracted verbs from Old English which have this root structure of Gmc. CaRC, all the other dialects show an /ē/ (or OHG /ia/), or reduce the vowel to a short /e/ as a result of two following consonants. In Old English the verbs bear the diphthong /ēo/ in the preterite tense although DURRELL (1975/6, 51) claims the vowel to be /eo/ "though the quality of the *eo* in OE *heold* is uncertain and it may be *ēo* from Gmc. *eu* (BRUNNER 1965, §396)".[37] Both CAMPBELL (1959, §745) and

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[36] The case of Go. *saizo* the preterite form of *saian* we will come to later in a discussion of the history of reduplication and the role it plays for the strong verb system in Germanic.
In regard to VERNER's Law and Gothic, PROKOSCH (1939, 63) says: "In general, the spirant remained voiceless in words where the preceding syllable was stressed in some forms, unstressed in others. But it was voiced where the preceding syllable was unstressed throughout. Thus, Gothic has *wairþan, warþ, waurþum, warþans*, although the root was originally unstressed in the last two forms. But VERNER's law did take effect in words like *sibun* < **septḿ* , *fadar* < **pə-téːr* , where the suffix accent had become fixed in IE or very early Gmc. times." Thus also WRIGHT (1954, 63): "In Gothic the regular interchange between the voiceless and voiced spirants in the forms of strong verbs was, with two or three exceptions, given up by levelling out in favour of the voiceless spirants. In this respect the West Germanic languages show an older stage than Gothic."
[37] BRUNNER (1965, §396): "Die Quantität des ēo im Prät. ist nicht direkt zu ermitteln. Aus etymologischen Erwägungen wird es lang angesetzt. " FLASDIECK (1936b, 283): "Die Quantität des ae. *eo* kann mit internen Mitteln nicht genauer bestimmt werden. Die ae. Metrik kann ebenso wenig Auskunft geben wie die spätere Entwicklung: Metrisch sind alle diese Silben lang vor Doppelkonsonanz". FLASDIECK then gives various possibilities: short /eo/ as a secondary development from /e/ of the other Germanic languages; long /ēo/ as a result of contraction from an originally

MITCHELL/ROBINSON (1991, §104) see the vowel as /ēo/ rather than /eo/. Either way, the appearance of an ablaut alternant with an *o*-element in a structure which in the other dialects is without an *o*-element is clearly difficult. However, for our purposes this is not too important. It would seem that the appearance of this diphthong *is* restricted to one dialect and that we may regard the appearance of /ēo/, /eo/ as dialect-specific and language internal and therefore not a reflex of different Germanic forms from those which we woud expect. The /ēo/ diphthong, whether long or short, is a regular if odd development of /ē/ before resonant segments. This seems like a satisfactory supposition and does not for the moment affect the investigation at its current stage. /ē/ in Old English is restricted to a few words only, in the same way as the OHG /ia/ diphthong. Both are reflexes of the curious character /ē²/ which itself is elusive and restricted in its distribution.

5.2.4.3 The Nature of the Problems Inherent in the Seventh Class

The data from chapter 4 and their recapitulation in **5.2.4.2** above show great inconsistencies in the treatments of the strong verbs that belong to the class whose members reduplicate in Gothic. The problems we have uncovered are as follows:

1. What is the status and influence of reduplication for Germanic? Why regularly only in Gothic? What can we conclude from the Anglian relics and the Old Norse verba pura?
2. What is the role of the vowel /ē²/? Where does it come from? Can an answer to this question help in evaluating the role of reduplication?

It is these questions that I wish to turn attention to in the following sections before assessing and evaluating the form and structure of the verbs in the seventh class as a whole. The fact that there are verbs in this class with various root structures has led some to re-appraise the structure of the whole system of strong verbs in early Germanic to account for such diversity. Such an appraisal is that of VAN COETSEM (1956 and later) who develops a theory of mirror analogy to account for the development of the verbs of the seventh class, a theory which is taken up, for instance, by SONDEREGGER (1979, 86-88). The questions of reduplication and /ē²/ are rather intricate and interrelated, but I shall begin in each case by detailing the exact nature of the phenomena before tackling their pertinence for a debate about the ablaut patterns of the Germanic strong verbs. I shall deal with reduplication separately in an excursus in which I can detail the history and nature of this particular phenomenon more clearly.

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reduplicating form, via an intermediate /e-u/ hiatus-grouping. See also LASS/ANDERSON (1975, 205-209), who likewise do not unequivocally account for /ēo/.

E1.0 Excursus: Reduplication

This excursus will look at possible origins for the phenomenon of reduplication by comparing data from other languages outside the IE family. From this we will be able to say something about the general motivation for the implementation of reduplicative processes. We will see that reduplication tends to perform an iconic function. The instances of reduplication in Greek and Sanskrit will be detailed following this, from which we will be able to say something about the nature of reduplicaion in the early IE languages, before finally looking at Germanic and the individual dialects which make up the branch and what use they make of reduplication. We will then be able to evaluate the relevance and importance of reduplication to the seventh class of verbs as we have recorded them earlier in this chapter (**5.2.4.2**).

E1.1 Introductory: what is reduplication?

Reduplication is the repetition of all or part of a word or morpheme to convey semantic or grammatical function. A reduplicated form consists of a root and an affixational segment derived from the root[38] . In this way the reduplication segment is dependent on the root for its form, taking its shape from the phonological structure of the root.

Let us take an example.

In Modern German one can form a diminutive from any noun by adding the suffix *-chen* and vowel mutation where possible:

Haus "house"	*Häuschen* "small house/cottage"
Katze "cat"	*Kätzchen* "small cat/kitten"
Brot "bread"	*Brötchen* "bread roll"
Biß "bite"	*bißchen* "a little (bit)"

In each case the affixation process is the same, the suffix does not change from one form to another and is independent of the form of the root.[39] Let us compare this formation process with that found in Agta, a language from the Philippines[40] :

wer "creek"	*wala-wer* "small creek"
talobag "beetle"	*tala-tálobag* "lady bird"
pirák "money"	*pala-pirák* "a little money"

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38 The problem of whether we treat reduplication as affixation or not will here be left out of account. For the purpose of expediency and clarity I shall refer to it as affixation. The problem of the status of reduplication does not effect the discussion of reduplication in the IE languages. For detailed work on reduplication see CARRIER-DUNCAN (1984), MARANTZ (1982), BROSELOW/MCCARTHY (1982), and other accounts of Template and Prosodic Morphology.

39 However, as mentioned above, if the root vowel is /a,o,u/ or the diphthong /au/ it undergoes mutation to the front vowels *ä*, *ö*, *ü* or the diphthong *äu* respectively. In addition if a word ends in an unstressed /ə/ , this /ə/ is lost upon addition of the suffix.

40 Example taken from KATAMBA (1993, 180f.).

Here we see that in each case the prefix is different. From this small sample it might appear that Agta has at least three possible ways in which to produce the diminutive form of a noun. On closer inspection, however, it becomes clear firstly, that all three prefixes resemble each other in that they each contain the string *-ala-*, secondly, that the initial phonological segment of the reduplicated form is identical with that of the unreduplicated root: in the examples /w/, /t/ and /p/ respectively. So here we can say that the formation of diminutives is dependent on the form of the morpheme that is to be modified. Thus, following the pattern of the above examples, and overlooking any peculiar phonological changes in the language, we could confidently predict that the diminutive of a fictional form **kotag*, by repeating the first segment and adding the string *-ala-*, would be **kala-kotag*.

This example from Agta has been one of partial reduplication, as only a part of the root has been repeated in deriving the diminutive form. This is not the only type of reduplication possible. In Warlpiri, a native language of Australia, for instance, the plural of nouns referring to humans is regularly formed using total reduplication where the entire form is repeated:[41]

kurdu "child"	*kurdukurdu* "children"
kamina "girl"	*kaminakamina* "girls"
mardukuja "woman"	*mardukujamardukuja* "women"

This type of reduplication is clearly an example of iconicity in language, where the meaning of the word is reflected in its actual form. An unreduplicated, shorter form refers to singularity and a reduplicated form, consisting of a plurality of form, refers to a plural meaning.

As these two examples show, reduplication consists of the repetition of either the whole lexical form or any part thereof (initial segment or segments, a syllable or metrical foot) and with or without modification of this reduplicated element. As we saw in Agta, the reduplication element is determined by the initial segment of the root, that is it is essentially this segment which is reduplicated, but the element is modified by the addition of the string *-ala-* which appears in all of the reduplication affixes of that type.

As we shall see later when we look in detail at the function and nature of reduplication in Germanic, Gothic reduplication has a lot in common with the structure of this reduplication process in Agta. Both are essentially reduplication of the first phonological segment of the root. In Agta the reduplication element is modified by the addition of the string *-ala-*, but in Gothic the modification takes the shape of the addition of the vowel /e/ between the initial

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41 Example likewise taken from KATAMBA (1993, 180f.).

reduplicated phonological segment, and the root, thus the example *haíháit* "was called".[42] We shall look more closely at this later in this excursus.

We have, then, had a brief look at the form reduplication may take, but what about its function, and is the function a result of the form and/or vice versa?

Its function is very varied: it can denote plurality and diminution as we have seen from the above examples; it can also denote repetition, habitual activity, intensity of action, emphasis, etc. But all of these functions are semantic and like the use of reduplication in Warlpiri plural formation, to a certain degree iconic, an increase in the length of the form signifying some kind of increase in intensity of meaning or a modification of the degree of intensity. However reduplication has in some languages taken on a morphological function where it distinguishes between grammatical categories. For example the Ugandan language Ateso uses a kind of internal reduplication to produce a causative formation for verbs:

aiduk "to build"	*aituduk* "to cause to build"
ailel "to be glad"	*aitelel* "to gladden"
aiwadik "to write"	*aitawadik* "to cause to write"

In this example, the segment which is copied in the reduplication syllable is the vowel that appears in the second syllable of the root. It is copied along with the element /t/ which is placed before the repeated vowel. This string, tV, is then infixed into the root between the first and second syllables of the root. Following this principle, the imaginary form **aicam* would produce a causative **aitacam*. Similarly in Latin we see verbs which form their perfect tense by reduplication:

tondeo "I shear"	*totondi* "I have shorn"
pendo "I hang"	*pependi* "I have hanged"
mordeo "I bite"	*momordi* "I have bitten"

For these Latin examples we can see that a perfect stem is formed by repeating the first two segments of the root, segments which form the string CV-. It is not the first syllable which is repeated because this would produce the forms: **tontondi*, **penpendi*, **mormordi*.[43] In the same way as the example from Ateso, this Latin example shows how reduplication is used in non-iconic, morphological functions. That is where the reduplication performs a function

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[42] Forms like Gothic *staístald* "placed" which reduplicate the first two segments will be dealt with later.

[43] It must however be noted that although this explanation of Latin reduplication holds for *these* examples on a *synchronic* level, the same explanation must be rejected on a *diachronic* level and on the evidence of *other* reduplicated forms such as: *tango* "I touch", *tetigi* "I have touched". It seems more appropriate to explain this type of reduplication historically as reduplication with the vowel /e/; in the above examples the vowel of the reduplication syllable has assimilated to the vowel of the root. This will become clear in the next section where the development of reduplication in Indo-European will be discussed in detail.

which is not related to the shape of the reduplication itself; where reduplication somehow figuratively symbolizes the function it performs. In the example from Latin, "perfect tense" is not a feature inherent in the form the reduplication takes. We cannot say that the shape of the three syllables *to-*, *pe-*, *mo-* intrinsically signifies "perfect" in the way that the English word *bark* might be an attempt at reproducing the sound a dog makes and may therefore not be arbitrary.

E1.2 Reduplication in Indo-European

In the previous section we have encountered a variety of different types of reduplication with regard to both form and meaning. I shall now look at the reduplicative processes occurring in early Indo-European languages, specifically Ancient Greek and Classical Sanskrit, before later looking at the treatment of reduplication in the Germanic languages.

Reduplication in Indo-European for the most part follows the pattern of the Latin example above usually involving repetition of the initial segment or segments with an intervening vowel which may or may not be identical with the root vowel according to type and function of the reduplication. I shall look in detail at reduplicative forms in Indo-European in **E1.2.2**.

The use of reduplication in Indo-European is for the most part grammatical, i.e. that reduplication performs a grammatical function distinguishing between morphemes, rather than the semantic function we saw in some of the examples in section 1 (e.g. in Agta diminution, Warlpiri plural) . The uses of reduplication in Indo-European will be discussed in more detail in section **E1.2.3**.

E1.2.1 Origins of IE Reduplication

The question of the origins of reduplication in Indo-European is a difficult one. In Indo-European we are really only left with examples of reduplication used as a grammatical tool, a morpheme, rather than as a lexeme, or meaning-bearing structure. In those examples above, in which the reduplication bore witness to a certain degree of iconicity, we must describe the reduplication as semantic in function. Likewise the example of Agta diminutive forms is a semantic use of reduplication. The example from Latin, however, is a morphemic use of reduplication. The meaning of the base form remains the same; *pendo* and *pependi* both possess the base meaning HANG but the reduplication alters the context of the meaning with relation to tense, so that the reduplicated form refers to an action beginning in the past, the so-called perfect tense. Reduplication in this example, therefore, has a grammatical or morphemic function because it says something about the relation of the base form to a context, it does not alter the basic meaning. The lexeme remains intact. Our problem lies in any attempt to account for this grammatical use of reduplication. In those examples from

above in which the reduplication is iconic, that is the reduplication reflects the state of affairs in the real world, an explanation is clear: repetition or lengthening of forms signifies greater magnitude/increased intensity/plurality of the signified.[44] More signifier equals more signified. But where the reduplication is grammatical and there is no iconic relation between reduplication and context, the explanation is not so lucid. Indo-Europeanists tend to assume that the original function behind reduplication was a kind of iconic repetition or intensity in meaning, and this is at least an explanation which is borne out by examples from other non-Indo-European languages.

> Mit der Wiederholung war ursprünglich wohl allgemein auch semantisch die Nuance der Wiederholung bzw. Intensität verbunden. In den historischen Sprachen ist dies aber nur bei der (fast) totalen Reduplikation der Fall, wie bei den aind. Intensiva, während bei der grammatischen Reduplikation diese Bedeutungsnuance nicht zu bemerken ist. (SZEMERÉNYI 1990, 288)

The notable thing in Indo-European is that reduplication has really only come to have any kind of important role in the verbal system, where it is used to denote temporal distinctions. This does not mean that it did not occur in other word groups. Herman HIRT (1921-37, Bd. IV, Kap.1, 4-6) gives examples of reduplication in other parts of speech than the verb:

Skt. *dámē-damē* "house for house"
OGk. πάμπαν "totally"
Gk. προπρό, Skt. *prápra* "on and on"

HIRT continues by detailing the word class, outside verbs, which uses reduplication to a considerable extent. This, he says, is that of the pronouns, where there are examples from many languages of the emphasizing/intensifying use of reduplication. For example:

Gk. αὐτ- αυτός
Lat. *quisquis* "each", *ipsipse* "self (emphatic)"
Osc. *pispis* "each"
OHG *selpselbo* "self (emphatic)"

All the above examples from HIRT are of full reduplication, which is a different type from that in evidence in the verbal systems of Indo-European, where we see on the whole only

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[44] The example of Agta, of course, seems to work in the opposite direction. Diminution would imply a shorter form if the relationship between signifier and signified were to be iconic. The Agta diminutives are therefore not iconic. However, because they show reduplication they are marked forms in contrast to the unreduplicated neutral forms. The reduplication here is also, however, a semantic one. The context is not altered but the signified is changed by the use of reduplication. However, diminution might indeed be a difficult case, in that the use of a diminutive can be as a result of the speaker's relationship to the signified and thus to a certain degree independent of the meaning of the form used. Nevertheless, in contrast to the Latin examples, this case of diminution is still not a representative of grammatical reduplication, the lexeme is modified in its meaning not in its context. This probably says more about the way different parts of speech work. The Agta examples are nominal and the Latin ones are verbal. The realms of context and meaning are not equally extensive in these two parts of speech.

partial reduplication. These examples are also akin to the examples from other language groups from section **E1.1** in that the meaning of the reduplicated form is a function of its very reduplication. Reduplication in form equals reduplication in meaning and the relationship between signifier and signified becomes iconic through reduplication. If we are to follow the assumption that reduplication in IE verbs was originally a meaning-intensifying tool rather than a grammatical one, then the obvious step is to derive the grammatical use from an earlier semantic one represented here by the examples from HIRT. As SZEMERÉNYI (1990, 288) suggests, a good stepping stone from one to the other could be the Indian intensive formation. BRUGMANN (1904, 508), at the beginning of the twentieth century, proposes the same:

> Was aber die *reduplizierten* Formen betrifft, so tritt zunächst [...] der iterativ-intensive Sinn, den die Wortwiederholung von ältester Zeit her ausgedrückt hat [...], deutlich noch in den Klassen mit vollerer Reduplikation zu Tage, soweit sie Präsentia (nicht Aoriste) waren.[45]

Indeed in examples from Sanskrit [46], we can see that the reduplication used is a sort of halfway house between that found in the rest of the IE verbal system, that is a partial reduplication based on the first two segments of the base form with or without subsequent modification of the vowel of the reduplication syllable,[47] and that found in the other word classes which tended to be full reduplication of the whole root form. Such an example of an intensive form could be Skt. *bhárībharti* "he bears continually" from the root √*bhr* "bear". The entire root is reduplicated in its gunated form and attached to the root by the linking vowel /ī/. Or *várvrtati* "he turns continually" from the root √*vrt* "turn", in which the first two segments of the root are reduplicated with a gunated vowel.

The Indian intensives are the only verb forms which preserve anything like the iconic quality of reduplication which we saw in the examples from other language groups in section **E1.1**. "More" in these forms indicates continuity of action or repetition of action. It is possible that these forms did form a bridge between the semantic and morphemic functions of

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45 BRUGMANN (1904, 509) gives examples of the IE present reduplication type with /i/ in the reduplication syllable in which the sense of iteration can still just about be seen: "*jígāti* βίβησι ('den Fuss wiederholt aufsetzen, Schritte machen'), *píparti* πίμπλησι ('nach und nach, in mehreren Akten füllen')".

46 The Indo-Iranian branch of IE is in fact the only one in which we find evidence of an intensive formation. MEILLET (1915, 184): "Intensif. - Le présent intensif, constitué par la racine munie du redoublement intensif et le suffixe zéro, n'est conservé qu'en indo-iranien, d'ordinaire sous forme athématique".

47 By this I mean that the vowel of the reduplication syllable is identified with a particular quality. In IE this is most usually /e/ as we find in both Greek and Gothic, but also in Greek, in the reduplicating present forms, this vowel was /i/. In Sanskrit the choice of reduplicating vowel was yet wider, but nevertheless was not totally arbitrary but was dependent on either the shape of the root or on the type of reduplicative formation; that is, whether an aorist, intensive, or present, etc.

reduplication in Indo-European. Unfortunately, according to BURROW (1955, 354), the intensives were not particularly widespread.

> In the Classical language, though allowed by grammarians to be made from every root, [they are] of infrequent occurrence.[48]

The value of such a statement, however, is highly ambiguous. That the intensives are not found to occur very often only proves that it may not have been a form used in writing and literature, it says nothing about the possibility that the forms may have been common in everyday speech. In fact, that the grammarians allowed it to be formed from every root may even speak for the common use in speech, it certainly does not prove unequivocally that it was not widespread.

The difficulty lies in how we explain the origin of grammatical reduplication. What comes first, semantic or morphemic use? To answer this question, or at least give some indication of which of the two sequences is the more likely, let us look at two examples of forms which were originally meaningful and which developed into empty suffixes altering the meaning of the base but not giving it its own full meaning. The examples I have chosen are from English, the two suffixes *-ship* and *-ly*.

-ship is used in English in the production of nouns of status from simple nouns and *-ly* is used to derive adjectives from nouns, and adverbs from adjectives.[49] *-ship*, etymologically, is derived from the Old English for "shape" or "appearance" and so when compounded with another word meant the "shape/state of...". This, in essence, is what the suffix still means today, but the inherent meaning of the suffix as a word in its own right has been lost.[50] The same goes for the adjectival suffix *-ly*. This derives from the OE for "body, shape, form", so the meaning when compounded meant "in the shape/form of...". These two examples serve to illustrate that affixation is not an additive process: the resulting whole is not the sum of its parts, as would normally be the case in a compound. Compounding may, however, become

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[48] Cf. WHITNEY (1971, 362f)., and "...intensives in the later language are very rare, so rare that it is hard to tell precisely what value is to be given to the rules of the native grammar respecting them. Nor are they at all common earlier, except (comparatively) in the RV [Rig-Veda]."

[49] Etymologically the *-ly* used to form adjectives from nouns is not the same as the one used to form adverbs (compare the adjective *friendly* and the adverb *amiably*). The adverb-forming suffix derives from OE *-liċe* which contains the OE adverbial suffix *-e*. The adjectival suffix derives from OE *-lic*. In OE the appearance of the adverbial suffix would imply that the original root noun also normally added the adjectival suffix, that is the adverbial *-ly* originally could only be affixed to forms which could add the adjectival one. Later the two became confused especially following the loss of unstressed final syllables.

[50] *-ship* has nothing whatsoever, etymologically, to do with the noun *ship* meaning "boat", their derivations are not the same, although the fundamental derivation of the noun *ship* "boat" is, according to the OED, by no means certain.

affixation if one of the compounded parts loses its semantic force. This is essentially what the two examples from English show.

Thus in our evaluation of reduplication in Indo-European we can suggest that it is likely that reduplication as a grammatical tool derives from an earlier use as a semantic one. Morphemes do not generally take on new semantic roles, they do not gain inherent meaning, but lexemes can lose meaning to take on functions in the grammar and become morphemic.[51] This is what *-ship* and *-ly* have done, and this may well be what happened to reduplication in early Indo-European. The only other explanation would be if we were to deny any link between semantic and morphemic reduplication, but that still leaves us with the motivation problem for morphemic reduplication. Semantic reduplication does not need one, its motivation is its meaning, that is it acts like compounding and is the sum of its parts.

So we may conclude that the far more plausible explanation of the development of verbal reduplication is that it derives from the use of reduplication semantically in the verbs called intensives in early Indo-European, our examples coming from early Sanskrit.

E1.2.2 Forms

In the preceding section we came to the conclusion that the verbal use of reduplication in Indo-European derives from the use of it semantically in other word classes and also among the Indo-Iranian class of intensive verb forms. We have seen that, in other word-classes apart from the verbs, the type of reduplication we generally find is full reduplication, or at least nothing which closely resembles the reduplicative processes in the IE verbal system where it becomes chiefly responsible for denoting temporal distinctions.

Having in previous sections given a wider view of reduplication within Indo-European and also in other language groups of the world, I should like from this point onwards to restrict myself to the reduplication found in the IE verbal system, in particular with reference to the three languages: Sanskrit, Classical Greek and Latin. It is the IE system which forms the springboard for the treatment of reduplication in Germanic, with which we shall be occupied in later sections.

MEILLET (1915, 159) distinguishes two sub-groups in IE reduplication, which he calls α and β. α is "le plus complet" and has "le sens le plus fort". This is the type which we find in the Indo-Iranian intensives which we saw in the preceding section. It takes the shape CVR-. where R is a resonant (liquid or nasal). The form of the whole word being CVRCVR-. The

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51 Compare GIVÓN's cycle of grammaticalization which I mentioned in section **5.1.1** from MCMAHON's (1994) citation.

quality of the reduplicative vowel is according to Meillet hard to determine but often tends to be that of the root. β, "le redoublement ordinaire", consists of the initial consonant of the root followed by an "élément vocalique (voyelle proprement dite ou sonante voyelle)" which is usually /i/ or /e/ (*ibid.*, 160). In roots with a complex initial it tends to be simplified: e.g. CR- > CVCR-. However Latin and Gothic do both show, in the case of initial sibilant/consonant structures, repetition of both initial elements: sC- > sCVsC-. Sanskrit, on the other hand, redoubles only the occlusive: sC- > CVsC-.

BRUGMANN (1904, §624, 481f.), however, talks of three different types of proto-IE reduplication. BRUGMANN's type I comprises monosyllabic reduplication with the vowel /e/ or /ē/, his type II is the same but uses the vowel /i/ or /ī/. Both of these correspond to MEILLET's β. BRUGMANN's III is in effect the same as MEILLET's α:

> Die Reduplikation ist eine vollere als bei I und II, und der Vokal der Reduplikation war in uridg. Zeit im Allgemeinen qualitativ derselbe wie der der Wurzelsilbe im Gegensatz zu den festen *e* und *i* der beiden anderen Typen. (*ibid.*, 482)

The type with /e/ is found mostly in perfect forms, for example; Skt. *babhūva* "I have been"from the root √*bhū* "be",[52] Gk. κέκλεικα "I have closed" from κλείω, or Lat. *stetī* "I have stood"from *stō*. The type with /i/ is found most typically in the present forms: Skt. *tisthati* "he stands" from the root √*sthā*, which corresponds to the Greek present ἵστημι "I stand", where the rough breathing is the remnant of the reduplicated sibilant, or Gk. γιγνώσκω "I know" and διδάσκω "I teach". BRUGMANN then breaks down his type III into A (those with initial consonants) and B (those with initial sonants, by which, from his examples, he seems to mean vowels; there are no examples with what I term resonants and which includes liquids and nasals and the semi-vowels /i,u/). For BRUGMANN type III forms are chiefly displayed by the intensive verbal forms of Indo-Iranian. The formation of these reduplicated forms is quite consistently that of the first three elements of the root prefixed to the root, sometimes with an intervening vowel /i/ or /ī/. As both BRUGMANN and MEILLET say, it is a fuller type of reduplication. In the case of those examples which begin with a vowel, a similar pattern is seen; it is not only the vowel which is reduplicated, as we see in other forms in Indo-European (for example ἤγγελκα "I have announced" from ἀγγέλλω, or ἠθέλκα "I have wished" from ἐθέλω)[53] , but in addition the consonantal segment following

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52 As we have seen before, in Sanskrit or rather Indo-Iranian as a whole the three IE vowels /a,e,o/ coalesced into the vowel /a/. One piece of evidence for this coalescence can be seen in the reduplication syllable, which originally must have contained an /e/ in Indian. In roots that begin with the velar consonant /k/ the reduplicative syllable has the palatal consonant /c/ which can really only show influence of the following original palatal vowel /e/.

53 Although essentially the "reduplication" in these froms is identical with the augmented tenses (imperfect and aorist). The vowel in the reduplicative affix in the Greek perfect formation is the same as the vowel of the augment. It is nevertheless possible to speak of the perfect in vowel initial roots as reduplicated; in verbs which begin with a consonant the consonant is reduplicated along with a vowel

the initial vowel is included in the reduplicated affix. Thus the examples: Skt. *álarti* "he stirs"(with dissimilation of /r/ to /l/), Gk. ἄλαλκε "he defended".

Let us now confine ourselves to a description in turn of the reduplication we find in the two languages, Sanskrit and Greek.

E1.2.2.1. Sanskrit

BURROW (1955, 304) lists eight types of reduplication for Sanskrit on purely formal grounds. These are:

i) - with /a/ = IE /e/ e.g. *dadhāti* "he places" fom √*dhā*

ii) - with /ā/ = IE /ā/ e.g. *jāgarti* "he is awake" from √*jāgr*[54]

iii) - with /i/ when not root vowel, e.g. *tisthati* "he stands" from √*sthā*

iv) - with /ī/ when not root vowel, e.g. *ájījanat* "she gave birth to" (reduplicated aorist) from √*jan*

v) - reduplication with weak vowel forms for roots in diphthongs, e.g *juhóti* "he sacrifices" from √*hu*

vi) - intensive reduplication with guna vowel of root, and where appropriate reduplication of root final /r,n/, e.g. *dédiste* "points out" from √*dis*, *várvrtati* "they turn (continually)" from √*vrt*

vii) - intensive reduplication with /i/,/ī/ suffixed to the reduplicative syllable. e.g. *bhárībharti* "she bears (continually)" from √*bhr*

viii) - initial /a/ > /ā/, e.g. *āsa* "was"

Both i) and ii) correspond to BRUGMANN's I, for IE /a,e,o/ coalesce in Sanskrit in /a/ (see footnote 52). iii) and iv) correspond to BRUGMANN's II, although the use here of /ī/ in a

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with the quality /e/. In the cases where the initial segment of the root is a vowel, there is no consonant to reduplicate but the vowel that would have been in the reduplicative affix can still be added to the stem as a type of deficient reduplication process.
Schematically this looks thus:

Root.	Red. affix	Red. form	Contraction
1) C_1VC_2-	C_1e-	$C_1eC_1VC_2$-	$C_1eC_1VC_2$-
e.g. γραφ–	γε–	γεγραφ–	γεγραφ–
2) $ØV_1C$-	Øe-	$ØeØV_1C$-	V_2C-
e.g. αγγελ–	ε–	ε–αγγελ–	ηγγελ–

54 According to COULSON (1992), this root belongs to the second/root or *ad*- class, which is an athematic class forming the present tense merely by adding the personal endings to the root. However, the root itself does seem to be reduplicated with /ā/ from a base *gr*; /g/ > *j*, i.e. voiced palatal plosive as a result of a following /e/. cf. footnote 52.

reduplicated aorist will be discussed below. v) seems to be an oddball, but diphthongs are represented by either /i/ or /u/ in reduplication. (As we saw elsewhere, *e* is in fact an original diphthong /ai/ and *o* is /au/.) vi) and vii) both correspond to BRUGMANN's III, each being formations using strong forms of the root or longer versions of it and thus complying with MEILLET's assertion that this type of reduplication is "le plus complet". Type viii) corresponds to BRUGMANN's I, for it is reduplication according to footnote 53 above.

There are also a couple of phonological modifications to the initial consonant in the reduplicative syllable. Firstly if the root begins with an aspirated stop the reduplicated syllable will dissimilate and have a simple stop, e.g. from √*dhā* "place" the reduplicated present is *dadhāti* and not **dhadhāti*[55] . Roots beginning with a velar are palatalized in the reduplication syllable thus from √*kr* "do" the perfect is *cakara* not **kakara*, (cf. footnote 52).

Where the root begins with a cluster of consonants only the first is reduplicated, unless the cluster consists of a sibilant plus a stop, in which case only the stop is found in the reduplication syllable, e.g. from *ksip* "throw" the perfect is *ciksepa* and from *smr* "remember" the perfect is *sasmāra*.

E1.2.2.2 Greek.

The reduplicative phonology of Greek is much simpler than that in Sanskrit. In Greek there are essentially three types.

1) - Reduplication with /e/, e.g. λέλοιπα "I have left" from λείπω.

2) - Reduplication with /i/, e.g. δίδωμι "I give" from a root δο-.

3i) - Reduplication/Augment with verbs beginning with a vowel (see footnote 53), e.g. ἤγγελκα "I have announced" from ἀγγέλλω.

3ii) - Reduplication of the whole initial syllable, including rhyme, in stems which begin with a vowel, in addition to the lengthening of the root initial vowel as 3i), e.g ἀκήκοα " I have heard"from ἀκούω

1 and 3 are BRUGMANN's I, and 2 is BRUGMANN's II.

Some phonological modifications of the consonantism of the reduplication syllable are found in Greek as in Sanskrit: a series of two aspirates, as in Sanskrit, is reduced to a stop in

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55 This dissimilation was studied in the nineteenth century by Hermann GRASSMANN who propounded his Law (1863) of which the second clause reads (in the rendering of COLLINGE 1985, 47): "Given two consonant-groups in a word, separated by a vowel and themselves aspirated, and provided that they are within the same root, then one (and normally the first) is deprived of its breath feature".

the reduplication syllable followed by an aspirate in the root syllable: πέφηνα "I have appeared" from φαινω. In clusters of consonants only the first is reduplicated.

E1.2.2.3 Skt. vs. Gk

The bald facts of the previous two sections, intended merely to show what reduplication is evidenced in the two languages and thus as a guide to the types of reduplication we might encounter in Indo-European as a whole, can be represented in the following table:

Table E10: Sanskrit and Greek Reduplication (Form)

BRUGMANN	Sanskrit	Greek
I) Red. with /e/ or /ē/	i) Red. with /a/ ii) Red. with /ā/ viii) initial /a/ > /ā/	1) Red. with /e/ 3i) Red. of roots with initial vowel. (see Note 56)
II) Red. with /i/ or/ī/	iii) Red. with /i/ iv) Red. with /ī/	2) Red. with /i/
III) Fuller Red. A) initial consonants	vi) Intensive Red. with guna grade and red. of final /r,n/ vii) Intensive Red. with /i,ī/ suffix to red. syllable	
B) initial "sonants"		3ii) Red. of root final consonants along with lengthening of root initial vowel.
	v) Red. with weak form of vowel in diphthongal roots	

E1.2.3 The Application of Reduplication in Indo-European

E1.2.3.1 Sanskrit

In Sanskrit, reduplication is used as an indicator of various tenses and it is also used in the formation of aspectual and modal distinctions. It is found in the present system, the aorist system, the perfect and in the desideratives (expressing a strong wish) and the intensives (expressing intensity of action). Let us look at each of these in turn, to see the type of reduplication which each uses, and to establish if there are any differences in usage, and, if possible, to evaluate the amount of influence of each of the applications of Sanskrit reduplication on the rest of the verbal system and thereby the relevance to a postulated IE system.

E1.2.3.1.1 The Present System

The present tense system of Sanskrit comprises ten classes of verbs , categorized according to the form of their present tense.[56] Of these ten, one class forms the present stem using reduplication. This is the third class, or *hu-* class.[57] There are altogether fifty verbal roots which belong to this class although only sixteen are actually found in the classical language (BURROW 1955, 321). The form of the reduplication is generally as iii) and v) in the Sanskrit column of the above table, although /a/ also appears in the reduplication syllable of some verbs. Vocalic /r/ in the root means that the reduplication syllable will have /i/.
Examples:

bhr- "carry"	*bibharti* "he carries"
dhā- "put"	*dadhati* "he puts"
bhī- "fear"	*bibheti* "he fears"

The verbs of this class show reduplication throughout the whole of the present system. The present system comprises a present, an imperfect, an imperative and an optative as well as a participle, all of which can occur in both parasmaipada and ātmanepada.

E1.2.3.1.2 The Aorist System

The aorist in Sanskrit can be divided into two types: sigmatic and asigmatic. Sigmatic aorists add some kind of sibilant suffix to the root. Asigmatic aorists comprise three types: root aorist (no suffix or aorist theme apart from the augment which occurs in all aorists), *a*-aorist (with an *a*-suffix) and the reduplicated aorist. The numbers of verbs forming their aorists with recourse to the root or *a*-formation is quite small, but the reduplicated aorist has, unlike any other aorist, become linked to a particular class of verbs namely all causatives, which means also all class X verbs, although there is in addition a small number of verbs which form their normal aorist using reduplication (e.g. *adudruvat* from √*dru* "run"). [58]
The typical form of the reduplicated aorist is as follows: the normal, or rather preponderant, reduplication vowel is /ī/ which appears in those forms whose roots do not have /u/. The reduplication syllable is always heavy,[59] so that if the reduplication syllable is followed by two consonants the reduplication vowel is reduced to /i/, the reduplication syllable remaining heavy. In those verbs with roots in /u/ the reduplication vowel is either /u/ or /ū/, distributed in the same way as /i,ī/ for the other verbs. Examples:

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56 See Section **3.1.2** footnote 7 and appendix **7.1.2**.
57 √*hu* "sacrifice", present tense: *juhóti* "he sacrifices".
58 Class X verbs are those which have the suffix *-aya-*. This is also the suffix employed to form the causative of other roots which are not class X.
59 A heavy syllable is one which contains a long vowel, or which has a short vowel followed by two consonants. Cf. syllable quantity in Latin verse.

anīnayat "he caused to lead"	*nāyayati* "he causes to lead"	√*nī* "lead"
ajījanat "he begat"	*janayati* "he begets"[60]	√*jan* "be born"
amūmucat "he caused to be freed"	*mocayati* "he causes to be freed"	√*muc* "free"
ajigrahat "he caused to be seized"	*grāhayati* "he causes to be seized"	√*grah* "seize"

E1.2.3.1.3 The Perfect

The perfect in Sanskrit is characterized by reduplication and by a distinct set of personal endings. There are no different classes of perfect (in the way that there is for the present tense); all Sanskrit verbal roots form their perfects in the same way. It is formed from the verbal root rather than from the present stem, otherwise the reduplicated presents would have a double reduplication in the perfect. The form of the reduplication is in regard to the consonants just like that in the other tense systems we have so far dealt with; the vowel of the reduplication syllable is generally /a/ unless the root vowel is /i,ī,u,ū/ in which case the reduplication syllable has /i/ or /u/ corresponding to the quality of the vowel in the root. There are, as always, a number of exceptions but this is the general pattern. Roots beginning with /a/ have /ā/, those beginning with /i/ or /u/ have perfects which alternate between *ī* and *iye*, and *ū* and *uvo* according to weak or strong grades.[61]

Examples:

dadarsa "he saw"	*dadrsur* "they saw"	√*drs* "see"
ninãya "he led"	*ninyur* "they led"	√*nī* "lead"
cakãra "he did"	*cakrur* "they did"	√*kr* "do"
iyesa "he wanted"	*īsur* "they wanted"	√*is* "want"
papãta "he fell"	*paptur* "they fell"[62]	√*pat* "fall"

E1.2.3.1.4 Desideratives

Like the causatives (mentioned earlier in the discussion of aorist reduplication) and like the intensives (mentioned in **E1.2.1** when we discussed the change from semantic to morphemic reduplication) the desideratives are also a secondary formation of the root. They each involve a fundamental modification of meaning rather than simply being temporal allomorphs of the basic verbal root. For example, *nī* is a root meaning "lead", it forms a present tense *nayati* "he leads"which in turn forms an aorist *anaisit* and a perfect *ninãya*. However, from the root one can also form a causative *nãyayati* "he causes to lead" which itself can form an aorist *anīnayat* and a past participle *nãyita*, a desiderative *ninīsati* "he

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60 i.e. "causes to be born" and thus "begets".

61 Strong grades in the three persons singular of parasmaipada, elsewhere the weak grades.

62 This is the more original form, appearing in the earlier RigVeda, for the 3rd person perfect of this verb; later the perfect form became contracted to *petur*. This contraction occurs in roots with a medial /a/ and is a result of the fusion of the root with the reduplication syllable. Roots such as *sad* "sit" and *yam* "reach" show how this contraction came to take place: *sasdur* > *sazdur* > *sedur*; *yaymur* > *yemur*. See also section **5.2.3.2**.

wants to lead" can itself also be the base for further forms such as a past participle, *nīsita*. The derived secondary forms act as new verbs producing their own temporal allomorphs. They can be the base for further forms, they are not the end result.

The desiderative is formed using reduplication as well as the addition of the suffix *-sa-*. The reduplication vowel is generally /i/ unless the root has /u/ in which case the reduplication vowel is /u/. In IE languages as a whole, however, the desiderative is "not widely represented, a fact which must be due to loss in the individual languages. The only branch of Indo-European outside Indo-Iranian where a comparable formation occurs is Celtic. Since there are no close relations between these two members of the family this is itself indication that the formation is ancient." (BURROW 1955, 360)[63] However, the desiderative is more frequent than the intensive, as WHITNEY (1971, §1026, 372) writes:

> The desiderative conjugation, although its forms outside the present-system are extremely rare in the oldest language, is earlier and more fully expanded into a whole verbal system than the intensive. Its forms are also of increasing frequency: much fewer than the intensives in RV [Rigveda], more numerous in the Brāmanas and later; not one third of the whole number of roots (about a hundred) noted as having a desiderative conjugation in Veda and Brāhmana have such in RV.

Examples of the Sanskrit desiderative:

pibāmi "I drink"	*pipāsāmi* "I wish to drink"	from *pā* "drink"
jīvāmi "I live"	*jijīvisāmi* "I wish to live"	from *jīv* "live"
nrtyāmi " I dance"	*ninartisāmi* "I wish to dance"	from *nrt* "dance"

E1.2.3.1.5 Intensives

The intensive is, as I have already said, a secondary formation using reduplication. The type of reduplication is characterized by guna grade vowels in the reduplication syllable: /i,u/ of the root have reduplication with /e,o/ respectively and /a/ reduplicates as /ā/. A resonant following the radical vowel is often reduplicated alongside the initial segments. In addition an /i/ or /ī/ is sometimes inserted between the reduplication and root syllables. However, as with the desideratives, the intensives as I have mentioned earlier were not widespread and are not recorded outside Indo-Iranian.

> The intensive is a form of present stem which expresses intensification or repetition of the sense expressed by the root. It is common occurrence in the Vedic language, being attested from over 90 roots. In the classicial language, though allowed by the grammarians to be made form every root, it is of infrequent occurrence. (BURROW 1955, 354)

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63 The Celtic form which the Indo-Iranian desiderative resembles is the Old Irish reduplicated future with *s*-suffix: *lilsit* 3rd pl. from *ligid* "licks". (BURROW 1955, ibid.)

They do represent the only verbal evidence of a fuller reduplication which we suggested as being the source or motivation for the introduction or systematization of reduplicative processes throughout the verbal system. Some examples are:

vevedmi "I know (int.)"	√*vid* "know"
nonaviti "he roars continually"	√*nu* "roar"
carkarmi "I commemorate cont."	√*kr̄* "commemorate"
ganīganti "he keeps going"	√*gam* "go"

E1.2.3.2 Greek

In Greek, reduplication is used in some present tense forms and some aorist forms although it is chiefly found in the perfect tense system, where it was systematized throughout the whole paradigm, just as we saw was the case with the Sanskrit perfect.

E1.2.3.2.1 The Present System

Some verbs reduplicate in the present tense, but the occurrence is not as widespread as that in Sanskrit. The type of reduplication is comparable to that in Indo-Iranian in that the vowel of the reduplication syllable is without exception /i/, which is the vowel that predominates in the reduplicating present class of Sanskrit. In some forms the reduplication belongs to the verb stem.

Examples:

Present	Future	Aorist	Meaning
γίγνομαι	γενήσομαι	ἐγενόμην	"become"
δίδωμι	δώσω	ἔδωκα	"give"
ἵστημι	στήσω	ἔστησα	"stand"
πίπτω	πεσοῦμαι	ἔπεσον	"fall"
βιβάζω	βιβάσω	ἐβίβασα	"bring"
διδάσκω	διδάξω	ἐδίδαξα	"teach"

The first four examples are comparable with Sanskrit in that the reduplication is not a part of the root but rather a way of forming the present stem from a root which already exists in a different form. The second two examples show how their reduplication has become an intrinsic part of the root, and so appears in all forms of the verb. It is no longer morphemic but has become a part of the word. This is not strictly the type of reduplication under scrutiny here, since I am dealing with reduplication as a grammatical function. In the last two examples it performs no function, it has lost it in regularizing the reduplication across the entire paradigm.

E1.2.3.2.2 The Reduplicated Aorist

There are a few examples of reduplication in the strong or 2nd aorist of Greek. The strong aorist has no -σα- suffix, and thus relies on other criteria to distinguish it from the imperfect with which it shares its personal endings. The form of the aorist stem is identical with that of the verbal stem. There are two common verbs which use reduplication in the strong aorist. They are ἄγω "I lead", aorist: ἤγαγον and φέρω "I bear", aorist: ἤνεγκα.[64] Both of these repeat the consonant following the stem vowel, in ἤνεγκα this appears as a nasal /n/, because a series of two velars(/gg/ or /gk/) in Greek is realized as a velar nasal plus velar plosive (/ngg/ or /ngk/).[65] The only other examples of aorist reduplication are very rare and in one case represents a verb which does not even appear in the present tense. The lack of examples of this type of reduplication points to its antiquity in Greek, the only reason it remains is because of its use in the two common-place verbs mentioned above. The type of reduplication here is repetition of the initial segment, if this is a consonant, with the intervening vowel as /e/; the two common forms show repetition of the segment *following* the root vowel. The other extant examples are:

ἔπεφνον	"I slew"	from φείνω "I slay"
ἐκέκλετο	"he called"	from κέλομαι "I call"
ἔτετμον	"I overtook"	no present in use
λέλαθον	"I eluded"	from λανθάνω "I escape notice "
πέπιθων	masc. aor. part.	from πείθω "I persuade"
ἑσπόμην	"I followed"	from ἕπομαι "I follow"[66]

E1.2.3.2.3 The Perfect Tense

In the perfect tense system reduplication is found in all moods. The system comprises the following tenses: perfect, pluperfect and future perfect; all of which show reduplication. The reduplication is of the initial segment followed by the vowel /e/ corresponding to the /a/ of Sanskrit. Initial aspirates (/θ,ϕ,χ/) appear as simple plosives in the reduplication syllable (compare Sanskrit)[67] .

Verb	Perfect	Pluperfect	Future Perfect	Meaning
λύω	λέλυκα	ἐλελύκη	λελύσομαι	loose
γράφω	γέγραφα	ἐγεγράφη	γεγράψομαι	write
κλέπτω	κέκλοφα	ἐκεκλόφη	κεκλόψομαι	steal
χωρέω	κέχωρηκα	ἐκεχωρήκη	κεχωρήσομαι	go,come
φύρω	πέφυρκα	ἐπεφύρκη	πεφύρσομαι	spoil

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64 Showing, of course, a suppletive form for this tense, from a root *ενεκ– reduplicating to *εν–ενεκ > ενεγκ–. Lat. *fero* is also suppletive in the perfect tense (Latin having no aorist), the principle parts being *ferō*, *ferre*, *tulī*, *lātum*.

65 A velar nasal is not a phoneme of Greek but an allophone of the alveolar nasal phoneme, thus the alveolar nasal appears in the reduplication syllable. cf. the same in Gothic.

66 The rough breathing signifying a lost original initial sibilant.

67 Grassmann's Law, see note 55.

E1.2.3.3 Skt. vs. Gk.

Table E11: Sanskrit and Greek Reduplication (Distribution)

	Sanskrit	**Greek**
Present System	Class III verbs (generally with the vowel /i/) 50 roots belong to the class, but only 16 in Classical Skt.	A few verbs (with /i/)
Aorist	Aorist of all causatives and class X verbs, in addition a small no. of other roots. (generally with /ī/)	Very few verbs (with /e/, the two most common with red. of root final cons.)
Perfect System	All perfects with red. (generally with /a/ unless root in /i,ī,u,ū/ then /i,u/)	All perfects with red. (with /e/)
Secondary conjugations	a) Desideratives (with /i/, unless /u/ in root then /u/) b) Intensives (with guna vowels of root vocalism, red. of final liquid possible, sometimes /i,ī/ suffix to red. syllable)	

E1.2.4 Indo-European Conclusions

In the preceding sections we have seen a fairly detailed outline of the uses and forms of reduplication in the verbal system of two early IE languages. This has shown some of the possibilities for the use of reduplication as a grammatical tool in the wider context of the IE verbal system as a whole. The widespread use of reduplication in Greek and Sanskrit, in the formation of the perfect tense especially, is something which concerns us in any discussion of reduplication in the single IE branch of Germanic. For it is in exactly this function that reduplication and its reflexes appear in the various Germanic languages albeit in a drastically reduced spread from that in evidence in Sanskrit and Greek. Out of the discussion of Indo-European and the presentation of the data concerning reduplication in Indo-European we will have a more focused vision of the situation in Germanic and will be at once aware of the traditions of reduplication at earlier stages of the IE language group. We shall now move on to Germanic and the specific problems which reduplication presents for us there.

E1.3 Germanic Reduplication

In the two languages that we have looked at in the preceding sections reduplication was a relatively commonplace occurrence, for both Greek and Sanskrit it had become systematized as a tense-distinguishing morpheme. In the Germanic branch, however, the evidence of reduplication points to a much more restricted usage than that in other IE branches, although this restriction may to some extent be explained as a result of the structure of the Germanic verbal system itself. From the evidence of early Germanic languages, it would seem that reduplication did not become systematized as a tense-distinguishing feature throughout the entire system of strong verbs. At least at a synchronic level this would seem to be the case.[68] In Germanic reduplication occurs most frequently (or at least most systematically) in the language of Gothic. Here it is seen in the preterite tense of verbs with Germanic /a/ (<IE /a,o/), where this /a/ is followed by a resonant (here /i,u,r,l,n,m/) and a consonant, and also in the preterite of verbs with roots in Germanic /ē/ and /ō/ whether or not they are followed by a consonant. These verbs constitute the "reduplicating class" or when placed alongside the ablauting classes of strong verbs the "7th class". In addition to these verbs in Gothic, which number perhaps as many as 36, there are relics in other languages which seem to suggest a development from once reduplicated forms.[69] These relics are found in Anglian, a dialect of Old English, possibly also in Old High German, but in the southernmost reaches of this language, and in Old Norse, too, there is evidence of once reduplicating forms.

We shall begin by looking at the use of reduplication in Germanic as a whole in comparison with the data from Indo-European in the preceding sections before looking in turn at each of the specific languages in which reduplication appears.

Reduplication in the verbal system of Germanic is restricted to the expression of the preterite tense. Germanic has only two synthetic tenses, the present and the preterite, each with indicative, imperative and subjunctive moods. All other temporal distinctions are made using periphrastic formations involving infinitives or participles. In contrast to the two earlier languages we discussed, this means that reduplication is less overworked in terms of the different morphological jobs it is required to perform. In both Sanskrit and Greek it cannot be said that reduplication is a marker for a particular tense; the most one can say is

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[68] KURYŁOWICZ (1964, 70) has suggested that the the two perfect morphemes, ablaut and reduplication, were complementarily distributed in IE. Verbs capable of ablaut did not have reduplication, and those not capable of ablaut had reduplication. KURYŁOWICZ goes so far as to say that those verbs with reduplication would not have originally had ablaut (cf. Gothic and Greek, where ablaut occurs in some verbs which also reduplicate) because the difference in stem (non-reduplicated versus reduplicated) would not have given rise to a vocalic opposition creating an ablaut relationship.

[69] When I say "number perhaps as many as 36", this really means that Gothic has a fund of 36 verbs which potentially are reduplicating. Some of these verbs do occur in reduplicated forms but others do not, we can however, from the evidence of the other Germanic languages, infer reduplication for the others. This is because in the other languages the cognates of the Gothic examples behave similarly. Their similarity of form in the other languages implies one too in Gothic although this is by no means without its own problems, but in the absence of more satisfactory data, it is an adequate interpretation.

that it is more or less *representative* of a particular tense; it features in the present, perfect and aorist, among others, so we cannot, therefore, say it is the preserve of any one of these. As a result of its multifunctionality in early Indo-European it cannot be said to have any inherent meaning whether intrinsic or implicational. If reduplication were used solely in the formation of the present tense then this would suggest that it was a marker for the present tense. At least this explanation holds for Sanskrit in which the types of reduplication are never exclusively assigned to particular tasks. The reduplication types are sometimes used in varying applications for different jobs, whereas in the case of Greek, there is a clear distinction between reduplication with /i/ and with /e/. The former is found exclusively in the present tense, the latter in all other instances. "All other instances" do in fact all refer to actions in the past or with perfect aspect (especially in the case of the future perfect).

What significance does this have for Germanic? In Germanic, even though it is seen in only a few forms when set aside the corpus of verbs that conjugate adequately without its help, reduplication is a marker for one tense and one tense only. As a result it could be said to bear intrinsic meaning for this tense; a reduplicated form will be a preterite and nothing else.

The type of reduplication found in Germanic is in all cases that with IE /e/. As mentioned above, this is the type which in Greek is used to formulate past tenses and indeed in Sanskrit it is the type found most often in the perfect tense.[70] As section **5.2.2** on has shown, the Germanic preterite may be seen as the reflex of the IE perfect and aorist and it is therefore no real surprise that this is the type which finds preponderance in Germanic.

The problem of reduplication in Germanic is inextricably linked with the problems of the ablaut system as a whole, and as I have mentioned the reduplicating verbs in Germanic hold a marginal position in the ablaut system (which, as we have seen, is also a reflex of forms in existence in Indo-European).

The ablaut system in Germanic is used in the verbal system to distinguish between tenses and the past participle. Its use reflects that of reduplication in the seventh class. The relationship between ablaut and reduplication is made starker by the realization that the verbs which in Gothic reduplicate do in the other languages of Germanic exhibit a type of ablaut alternation which although apparently not IE lends much to the inherited principle of IE ablaut.

If we look at the IE perfect as a starting-point for comparison with Germanic, what we find is that in Greek, for example, reduplication is the norm in forming the perfect, but in addition there are also forms which use ablaut as a way of consolidating the perfect

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70 As above, IE /a,e,o/ > Skt. /a/.

formation. In the perfect in Greek we see Abtönung, but in the Sanskrit perfect we see Abstufung.[71] In Germanic, as we have seen, the majority of strong verbs use some form of ablaut (both Abtönung and Abstufung), and there is then the small group of Gothic strong verbs, along with the "relics" from the other dialects, which show reduplication. This presents an intriguing problem: why do some verbs reduplicate in Germanic and the others use ablaut to produce their preterite tense formations? It is tempting to assume that at some point in the development of Germanic the formation of the preterite using ablaut was preferred, at least subconsciously, perhaps the reduplication syllable becoming unnecessary as a tense-marking prefix because tense was adequately marked already using ablaut. But this assumption rests on the fact that the two preterite morphemes were both equally active at an earlier stage throughout the tense system of Germanic, and precisely this is debatable. As regards Indo-European, of which, after all, Germanic is a constituent part, the question of the relative status of ablaut and reduplication in the tense sytem is still a controversial question. AUSTEFJORD (1979,208) doubts a distinct and defined original morphemic role for reduplication in Indo-European:

> Inwieweit die Reduplikation, die für das aind. und gr. Perfekt so typisch ist und auch anderswo vorkommt, schon im Indogermanischen ein fester Bestandteil des Perfektstammes war, läßt sich kaum mit Sicherheit entscheiden. Jedoch deuten altertümliche Formen wie aind *véda*, gr. οἶδα darauf, daß dies nicht der Fall war.

Indeed, that there are these examples in Greek and Sanskrit of perfects without reduplication is important and perhaps does point to a later addition of reduplication to the perfect paradigm (although it will be remembered from **5.2.1** that οἶδα can be described in terms reduplication). As we have seen, reduplication, when used as a morphological formative, is often iconic, the addition that it represents is seen as significant for the meaning of the reduplicated form. Its use in the perfect tense however is symbolic at a figurative level rather than at an iconic level. This would seem to suggest that the reduplication in the perfect represents the extension of a known morpheme to a new environment, perhaps to fortify the existing tense distinguishing features. This view of reduplication and ablaut sees a subordinate role for reduplication in regard to the formation of the IE perfect. Reduplication is secondary, a later addition. KURYŁOWICZ (1964, 70), on the other hand, sees them as alternative mechanisms in the formation of the perfect tense of Indo-European.

> There must have been in I.E. originally two different procedures of forming the perfect: *either* apophony of the root-vowel (*e* > *o*) *or* reduplication. [...] The old distribution between reduplication and the *o*-grade is more or less preserved in Italic. Celtic, and Germanic.

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71 For discussion of Skt. Abstufung versus Gk./IE Abtönung, see **5.2.1**.

KURYŁOWICZ (*ibid.*) goes on to account for the appearance of reduplication in forms which already have ablaut.

> The spread of reduplication to perfects with vowel-gradation has been favoured in Indo-Iranian by the merger of *e* and *o* [...]. In Greek, the type δέ- δορκ- α (reduplication *and* *o*-grade) shows the cumulation (conflation) of both procedures, the former to be regarded as a strengthening of the latter. Both in Indo-Iranian and in Greek *véda* = οἶδα is an archaism to be explained by its semantic isolation.
> The conflation of the two procedures is also *semantically* accounted for by the possibility of ambiguousness of certain forms, and *formally* by the mechanism expounded in chapter I, § 41 ['the so-called conflation ("conglutination") of suffixes']

What transpires from all of this is that different IE languages systematize different methods of tense distinction from the IE pot of possible forms. Germanic systematizes ablaut for its strong verbs, the weak verbs (being on the whole secondary formations, whether deverbative or denominative) form the preterite by adding a dental suffix to the root augmented by a thematic segment.[72] On the other hand, in Greek, reduplication became the systematic morpheme for distinguishing the perfect tense. Both reduplication in Germanic and ablaut in Greek are used for relatively few verbs as their method for expressing the preterite or perfect tenses.[73]

Let us now finally look at the Germanic data.

E1.3.1 Gothic

Formally, reduplication in Gothic is quite simple. The initial segment, if a consonant, is reduplicated along with the vowel /e/ which in Gothic is represented by the digraph *aí*. There is however a phonological difficulty here. Gmc. /e/ only appears in Gothic before /r,h,hw/ otherwise Gmc. /e/ appears as Gothic /i/. As a result the /e/ of the reduplication syllable would only be expected in those verbs which begin with /r,h,hw/. The actual evidence shows /e/ in the reduplication syllable of every class seven verb irrespective of the consonantism of the beginning of the root. WRIGHT (1954, 146) suggests that the /e/ present

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[72] The difference between weak and strong verbs, apart from the formal difference in conjugation, can also be put down to derivation. Strong verbs are primary verbs and represent the inherited core of IE verbal roots. Weak verbs tend to be secondary verbs, formed from the roots of other verbs or from nouns, adjectives, etc. The terms strong and weak originate from GRIMM and refer to the verbs' relative strength at withstanding new conjugation and thus retaining inherited inflections. It should perhaps be noted here that neologisms in the Germanic languages are conjugated weak. The weak conjugation has become the unmarked formation for Germanic, the strong verbs' use of ablaut is therefore marked in contrast with the weak verbs. Although the strong verbs are a powerful group of verbs and have high token frequency, few new strong verbs develop and it is more likely that a strong verb will become weak than vice versa. The number of strong verbs has been steadily diminishing over history.

[73] As we saw in section **3.3.2** ablaut is actually seen in only a few common verbs in Greek (acc. to SOMMERSTEIN 1973, 74, these number only 16, fewer than the number of verbs in Gothic which show reduplication).

in those verbs with /r,h,hw/ was simply extended analogically to the other verbs of the class. But this seems too simplistic an answer and speaks against the much larger number of verbs with consonantism other than /r,h,hw/; that the verbs with /r,h,hw/ should show /i/ would be a more realistic analogical development. It seems that the only way to account for this oddity is to call upon the morphemic power of the reduplication syllable. As a recognized morpheme, reduplication may have resisted any phonological developments and remained intact. This might also have something to do with the translator of the Greek texts, Ulfilas, who saw reduplication in Greek as the model.

However, the usual root type in Gothic, CVC, redoubles as CeCVC. If the root begins with a sibilant and an obstruent then both of these segments are redoubled along with the vowel /e/: e.g. stVC > stestVC. If the root begins with a vowel then the reduplication vowel is attached to the beginning of the root, this therefore suggests the Greek augment although, as note 53, explains it is possible to regard even this as reduplication.
Examples:

háitan	*haíháit*	"call, order"
slēpan	*saíslēp*	"sleep"
staldan	*staístald*	"place"
áukan	*aíáuk*	"increase"

These four examples suffice to show the regularity and transparency of the Gothic system of reduplication, features not evidenced by the other dialects I now turn to (Anglian, OHG and ON). The forms instanced by these dialects may or may not be reflexes of originally reduplicating forms, but I shall detail them here in a way which treats them as definitely being such. Different theories and propositions will be discussed later in the chapter (**5.2.4.4** *et seqq.*), where I return to them in greater detail and also introduce information and ideas which are not strictly related to reduplication.

E1.3.2 Anglian

Anglian is a term referring to the dialects of Old English which were spoken by the Angles. There are two dialects which one understands by the term Anglian and these are Mercian and Northumbrian. Anglian thus stands in opposition to the Saxon dialects in the south of England, which derive form the invading Saxon tribes, and to the Kentish dialect which was brought by the Jutes.[74] The point that Anglian is a northern dialect of Old English, has importance for some commentators on the reduplicated preterites I shall now discuss, because together with the examples from Gothic and those from Old Norse and Old High

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74 See CAMPBELL (1959, 1-11); BRUNNER (1965, 1-11); WRIGHT (1914, 3-4) for further information on the division of the OE dialects.

German which we shall see later, the evidence comes from areas at the extremes of the Germanic speaking world.

The forms cited as being of reduplicated origin in Anglian are the following: *heht*[75] , *leolc*. *leort*, *ondreord*, *reord*. Compared with Gothic:

Gothic		Anglian		
háitan	*haíháit*	*hātan*	*heht*	"call"
láikan	*laíláik*	*lācan*	*leolc*	"leap"
lētan	*laílōt*	*lætan*	*leort*	"let"
		ondrædan	*ondreord*	"fear"
-rēdan	*raírōþ*	*rædan*	*reord*	"advise"

Only one of the Anglian forms clearly looks as if it might have been reduplicated, and that is *heht*. In it one can see a development thus: **hehāt* > **hehət* > *heht*. A development which relies on the fixing in Germanic of the accent on the first syllable of a word, in order that the second, root syllable can be weakened, in the first instance to schwa and then disappearing completely. *Reord* and *leolc* like *heht*, do show constituent copying, the mark of reduplication, however the vocalism in these forms does not point to the vocalism in the reduplicating syllable (/e/), which seems to be the case in *heht*, and which, as I have pointed out, appears to be a simple case of loss of unaccented vowels. Following the development proposed above for *hātan*, we would expect for *rædan* and *lācan* the preterites **rerd* and **lelc*, and yet the actual attested forms show diphthongs, /eo/. According to CAMPBELL (1959, 57) the /eo/ in *reord* is quite easily explained, or rather it reflects a commonplace occurrence in OE. Short /e/ "is broken to *eo* with very great regularity before *u* and *χ*, and before *χ* and *r* followed by a consonant". This "breaking" can only take place after the weakening of the root syllable: **rerædˌ* > **rerədˌ* > **rerd* > *reord*. In the case of *leolc* according to CAMPBELL (*ibid.*) the breaking is irregular, it "is regular only when *s* precedes". But nevertheless there is the example of the verb *meolcan* "milk" developing from *melcan*, as a counter example. It would perhaps seem that /eo/ in *leolc* develops analogically with similar forms, i.e. *reord*, *leort*, which is what, in a footnote (p.57), CAMPBELL suggests. Thus: **lelācˌ* > **lelədˌ* > **lelc* > *leolc*. The only form left to explain is *leort*, which at first sight does not seem reduplicated at all, and yet it really ought to be related to the formations of *reord* and *leolc* if only because they are so similar in phonological shape. The /r/ followed by a consonant necessary to allow the regular development of breaking of /e/ to /eo/, is present, linking it with the other two examples. The problem of this form is the

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75 According to WRIGHT (1914, 263) this form also appears in West Saxon.

presence of /r/ at the point where one would expect the /l/ of the root syllable thus: **leolt* < **lelt* < **lelət* < **lelāt*. However that last stage (**leolt*) would be highly irregular, /e/ not usually breaking in this environment. Either we must assume analogical /l/ to /r/ with *reord*, or dissimilation of the second /l/ to /r/ in a series of like consonants. The problem then is why *leolc* does not do the same when it has a comparable structure. The problem of this /r/ will recur when we discuss the number of theories which are based around the notion of infixation later in this chapter.

Other possible reduplicated forms in Old English and noted by CAMPBELL (1959, 320) are *speoft*, *speaft* and *beoftun*, *beaftun* from the Lindisfarne Gospel glosses and the Northumbrian Rushworth Gospel glosses. The first of these comes from the verb *spātan* which only occurs in the Lindisfarne Gospels and which, unlike all the other examples from OE, does not occur "unreduplicated" in the past tense. *Beoftun* comes from the infinitive *bēatan* "beat". Expected reduplicated preterites on the evidence of Gothic would perhaps have been: **spespāt* and **bebēat*. In light of the developments of the above forms one would perhaps project the following for these two verbs:

**spespāt* > **spespət* > **spespt*
**bebēat* > **bebət* > **bebt*

One might even consider the fact that the /e/ of these forms may have undergone breaking in analogical line with the other reduplicated preterites from above: **speospt*, **beobt*. For the preterite of *spātan* we could assume that the style of reduplication is different to that found in Gothic. In Gothic, in verbs beginning with a sibilant and a plosive, both segments are copied in the reduplication syllable: *staldan*, *staístald*. If the lack of the sibilant in the preterite of *spātan* is original then this leads one to consider the reduplication of the type sCVC- which corresponds to the Latin *stēti* from *stō* "I stand". From the examples we saw earlier in **E1.2.2** it is clear that verbs beginning with a sibilant and plosive were apt to reduplicate differently throughout IE dialects. There are three tendencies: i) the string sC- is regarded as a single segment and is reduplicated fully (sCesC-), which is what we see in the Go. form *staldan* - *staístald*, ii) the sibilant alone is reduplicated (sesC-) as in the Go. *slēpan* - *saíslēp*, iii) the plosive is regarded as the reduplicating consonant in which case there are two possibilities: a) the consonant reduplicates and the root initial sequence remains unchanged (CesC-) as in the Skt. *tísthati* from the root *sthā* "stand", or b) both initial segments are reduplicated but the root initial sequence loses the sibilant (sCeC-)as in the Lat. *stō* - *stēti* above.[76] The motivation behind these divergences is unclear, but it is a fact that each of them turns up unpredictably in the IE languages. The form from OE we can describe

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[76] Compare OSTHOFF (1882), MEILLET (1915, 161) who regard Lat. *stēti* as "avec manque de *s* intérieur".

as reduplicating according to iiib) in contradistinction to the examples from Gothic which follow type i) or ii). Another point to make would be that we know no parallel example in Gothic to that from OE. We do not have an example from a verb that begins with a sibilant followed by a bilabial plosive, we only have cases of sibilant plus lateral/dental plosive/velar plosive, although with two places of articulation producing similar results it would be understandable to assume that under similar circumstances the same could be proposed for a different point of articulation. Whatever, we are left with the possible form **spepāt* as the original reduplicated form which would then develop to **spept*; the evidence shows breaking, so: > **speopt*. Our problem now is to account for the two changes /b/ to /f/ (in *beoftun*) and /p/ to /f/ (in *speoft*). CAMPBELL (1959, 320) suggests **speft* from IE **spept-*, and **beft* from IE **bhebht-*. This could be possible in the case of **spept-*, but it assumes that the /p/ to /f/ change is due to the Germanic consonant shift (1. Lautverschiebung). This by implication assumes that the formation of the preterite by reduplication was not a productive morpheme in Germanic, but that the reduplicated preterites had to be learnt separately, and that they were entered into the lexicon separately. Otherwise we have to make the consonant shift into an active phonological rule of the language over a long period of time. In the case of **bhebht-* this point is yet starker. The change /bh/ > /f/ is counter to other evidence in the Germanic languages where IE /bh/ regularly becomes Gmc. /b/ and remains as such.

After all of this there does not, for the moment, seem to be a satisfactory explanation of the changes, but to say that the change did take place in these cases; perhaps the only thing one can say is that they are dialectal differences, but this in itself is highly unsatisfactory.

E1.3.2.1 Anglian vs. Gothic

We have now looked at the use and structure of reduplication as used in two languages of the Germanic branch. It would at this point be apposite to see if there are any general conclusions which we could make about reduplication in Germanic based on the information that we have gleaned from these two languages.

Both use reduplication to form the preterite of some verbs, all of which are grouped together in the seventh class, although all this says about the class itself is that the verbs belonging to it reduplicate in the preterite in Gothic. The chief observation at this point is that no verb which could form its preterite using the ablaut series of the first five classes actually exhibits reduplication. This means that no verb whose root structure contains a short /e/ is found to reduplicate. The majority of strong verbs in Anglian and Gothic form their preterite tense using the ablaut alternation *e/o* as a basis. Whereas, in the Gothic evidence, reduplication is utilized by all verbs belonging to Class 7, which we earlier saw had no other path open to

them in forming the preterite if inherited morphemes were to be used, in the evidence from Anglian, which we might suggest has a wider significance for the appraisal of Old English in its entirety, reduplication is a marginalized preterite morpheme occurring in a handful of verbs. The Gothic verbs exhibit no other way of forming their preterites, but those examples from Anglian exist alongside unreduplicated forms which use a type of ablaut alternation. This ablaut alternation is not an *e/o* type like those reduplicating verbs of Gothic which also show ablaut, but it is an alternation which does not appear in other IE languages, and is regarded as a Germanic innovation. The preterite vocalism used is the controversial /ē²/, which will be dealt with later in this chapter, after the excursus.

E1.3.3 Old High German

There are a few forms (fewer than the sparse evidence for Anglian) which one might be led to take as evidence for assuming a period when reduplication was present in continental West Germanic. The forms are exclusively found in the "High" dialects of linguistic Bavaria. As listed in BRAUNE (1987, 288) they are:

> from *bluozan* "sacrifice" there is the form *pleruzzun* (3rd pl. ind.) in the second Reichenau Gloss and also the form *capleruzzi* (3rd sg. subj.)
> from *scrōtan* "cut" there is the form *kiscrerot* (3rd sg. ind.)
> from *stōzan* "push" there are the forms *steraz*, *stiriz* (3rd sg. ind.)[77]
> from *būan* "dwell/inhabit" there are the forms *biruun* (3rd pl.ind.) and *biruuuis* (2nd sg. subj.), the latter normally interpreted as *biruwis*.

The problem with this handful of forms is that it is very difficult to regard them in any way as representing earlier reduplicated forms. There does not at a synchronic level appear to be any constituent copying, the principle at the heart of reduplication. But all of the forms do have something in common and that is the presence of the consonant /r/. That an intervocalic /r/ can represent a previous /z/ by VERNER's Law, suggests that the /r/ could be an indication of an original /s/, which in two of the above cases would suggest an attempt at some kind of copying process going on in the derivation of the preterite forms from the present tense "roots". In *scrōtan* and *stōzan* one would expect a sibilant at the root initial position. On the analogy of Gothic we might propose original reduplicated forms, and their subsequent development according to the Anglian model, thus:

1a) **screscrōt* > **screscrət* > **screscrt* > **screst*? > **scrert*?
b) **stestōz* > **stestəz* > **stestz* >?

Neither of these two developments shows Verner's Law; for it to apply we would need a development like this:

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77 "…sind wohl Verschreibungen", BRAUNE (1987, 288)

2a) **screscrōt > *scresōt > *screzōt > *screrōt*
b) **stestōz > *stesōz > *stezōz > *sterōz*

None of the actually attested forms has a long vowel in the root vowel position, so that with weakening of the root syllable in the final stages of the developments in 2) we could in fact achieve the attested forms, or at least come close. This, however, means a different development from the verbs in Old English which follow the example of 1). We get into trouble the minute we try to account for all the differences in a unified theory. Both of these OHG examples go to show that any attempt to try and derive them from original reduplicated forms will come unstuck or at least get tangled in problems. The fact that all the forms show the same segment /r/ would speak against reduplication, but rather for some kind of infixation or at least a regularized process independent of the root form. The tantalizing thing about these verbs is that they are all from the seventh class, so that if they were Gothic we would expect them to reduplicate.[78] This may in fact be a reason why so many commentators like to view them as a halfway house between reduplication and the seventh class's "Germanic" ablaut which develops in North and West Germanic. Combining the evidence from Norse, there have been a number of theories which point to some kind of infix, among these are BECH (1969), FULK (1987) and D'ALQUEN (1988), about which more later when I shall talk of the development of /ē²/. It has become clear that attempts to explain these OHG forms as reduplicated are fraught with difficulties. From the evidence of Anglian and OHG it would seem that reduplication has been abandoned as a tense distinguishing feature in favour of less cumbersome ones (reduplication requires a lengthening of the speech act, the utilization of ablaut entails preterite forms shorter in length).

There are yet some interesting examples of possible reduplication in Old Norse which likewise deserve investigation.

E1.3.4 Old Norse

There are some preterites in Old Norse which resemble the OHG preterites from above in that they each contain an element /r/, but unlike those in OHG, there are among them forms which resemble closely reduplicated forms of Gothic. The verbs in question are all (excepting one analogical development to a verb of class six[79]) verba pura of class seven.

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78 Unfortunately there are a couple of examples of an intruding /r/ in verbs which are from other classes. The verbs *scrīan* and *spīwan* are both found with an /r/ inserted at the point of the syllable boundary between root and termination. This may have led to the generalization that the function of the /r/ was "Hiatustilger" (BRAUNE 1987, 288), although this is an uncomfortable explanation for the Class 7 verbs which, unreduplicated, are not in need of a Hiatustilger. The only Class 7 example which could be due to hiatus would be the forms of the verb *būan*, a verb which also does not have a root final consonant.

79 The verb in question being *slá* which alongside its normal preterite, *sló*, also has *slera*, pl. *slerum*.

Verba pura are verbs whose root ends in a long vowel. The affected verbs of Norse are: *sá* "sow", *róa* "row", *gróa* "grow", *snúa* "twist", *gnúa* "rub".[80] None of them has a consonant to close the root and so terminations affix directly onto the vowel of the root. Their preterites in the third person singular are: *sera*, *rera*, *grera*, *snera*, *gnera*. Of these five *rera* looks the most likely candidate for reduplication. Indeed it is relatively easy to see the development: CV- > CeCV-. A development which mirrors IE reduplicated forms: copying of the initial segment with the vowel /e/ interceding between reduplication and root. The Old Norse form does appear to have lost the full value of the root vowel, although this would be understandable as a final unstressed vowel following a shift of accent to the reduplication syllable.[81] A similar appraisal applies to *sera* if we bear in mind the relationship between /s/ and /z/ that we noticed in our discussion of Anglian. From *sá* we would expect the preterite *sesá*, according to the reduplicational principles we see in Gothic. With accent originally on the root the /s/ at the root initial position would have become voiced: **sezá* and thus to *sera* in which the accent has shifted to the first syllable enabling the weakening of the root vowel. This form is then directly comparable with the Gothic attested preterite *saísō* from *saian* "sow". The three further forms can only, in effect, then be analysed as being developments analogical to *rera* and *sera*, which could have developed regularly from the Gothic models.

E1.3.5 Germanic Summary

The clearest examples of reduplication are found in Gothic where, at the period the evidence dates from, up to 36 verbs may have used this process to form the preterite tense. The form of reduplication is that of repetition of the initial segment along with the vowel /e/ (in Gothic *aí*). Two clear examples are also found in Norse. It would seem that these then influence the conjugation of verbs with a similar structure, although for them the formation is then unrecognizable as reduplication. The copying is in their case not dependent on their own structure but on the structure of some other verb; this is not the essence of reduplication but is rather a grammaticalized general morpheme independent of the forms it acts upon. In Anglian we saw that there were grounds for considering the various example as reflexes of originally reduplicating forms. Here, too, there has been some analogical levelling and also dissimilation to achieve the attested forms, but nonetheless the evidence for reduplication is strong. It is when, in the light of the other languages, we look at the forms from Old High German that we hit upon problems in our reduplication interpretation. The Old High German forms resemble forms in other languages, i.e. the Old Norse verba pura with their *-er-* element, and the OE forms with /r/, but there seems to be no logical step which goes

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80 There exists a preterite *bnere* (3rd sg. ind.) meaning "rub", this is, however, usually described as a variant of *gnúa*, i.e. **bnúa*. SEEBOLD (1970, 125) lists both under the root **bnōww-a-*, treating them as the same verb, relating them to the form *bnauandans* "rubbing" in Gothic. However, "Die Erklärung des Lautstands dieser Formen ist verzweifelt unsicher"(*ibid.*, 124).

81 The preterite of these verba pura inflects, in the singular, according to the weak preterite: -a, -er/-ir, -e/-i. The personal endings in the plural are the same for both strong and weak verbs.

from the root of these verb forms to the "reduplicated" evidence. Synchronically they are not reduplicated. The only forms which comply are all the Gothic forms, from OE: *heht*, *leolc*, *leort*, *reord*, *ondreord* and Old Norse *sera* and *rera*. All of these preterite forms have some segment of the present repeated, and this is in the plainest terms the definition of reduplication. All other forms that we have looked at are developments from these in which some stable, independent feature has become grammaticalized as a preterite morpheme.

For example the /r/ element of the Old High German forms finds resonance in the reduplicated verba pura preterites and also in some of the Anglian forms. That this element crops up again and again in these examples has led some to suggest a re-interpretation of the truly reduplicating verbs as infixed with an /r/ element. If this is the case, these verbs can be seen as representing a reflex of once reduplicating verbs, although not themselves undergoing the process. They spread this re-interpretation. The sparsity of any large corpus of data makes almost any analysis of these forms dubious or at least questionable.

E1.4 Concluding Remarks

Our earliest evidence of Germanic, in the guise of what we have of the language of the Goths, continues reduplicational processes which are used at earlier stages and in other branches of Indo-European. Germanic generalizes the reduplication which we called earlier Brugmann I). In Sanskrit this is used in the formation of the perfect for all verbs, and likewise in Greek. From our examples this reduplication had the widest spread in IE and it is therefore understandable that it is the type which is found continuing into Germanic. It is interesting that reduplication in Germanic is eventually abandoned in favour of Abtönung, which certainly in Greek and Sanskrit, is not found in the verb system to any great degree.[82]

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82 Sanskrit, of course cannot exhibit the ablaut alternation of Abtönung because of the phonological constraints of the vowel system, as we have seen earlier.

5.2.4.4 Why Reduplication in Gothic?

In the excursus all that was said about the occurrence of reduplication in Gothic was exactly how it appears. We merely described it; but this left many questions unanswered, questions which are important for a discussion of the verbal system of Germanic and in particular for the use of ablaut within it. There follows a list of all the verbs which do or may reduplicate in Gothic. I shall put them into sub-groups according to their root vocalism and whether or not they show ablaut in addition to reduplication. A verb is bracketed if reduplicated forms are not attested but may be inferred from the morphology of cognate verbs in the other Germanic languages.

a)	*-áikan*	"deny"
	fráisan	"tempt"
	háitan	"call"
	láikan	"leap"
	máitan	"cut"
	skáidan	"divide"
	(þláihan)	"cherish"
b)	*áukan*	"add"
	(hláupan)	"leap"
	(stáutan)	"smite"
c)	*(-alþan)*	"grow old"
	(blandan)	"mix"
	fāhan	"seize"
	falþan	"fold"
	(gaggan)	"go"
	hāhan	"hang"
	haldan	"hold"
	(-praggan)	"oppress"
	(saltan)	"salt"
	(-staggan)	"pierce"
	staldan	"possess"
	(waldan)	"rule"
d)	*(blēsan)*	"blow"
	slēpan	"sleep"
e)	*(blōtan)*	"worship"
	**flōkan*	"bewail"[83]
	hwōpan	"boast"
f)[84]	*grētan*	"weep"
	lētan	"let"
	-rēdan	"advise"
	tēkan	"touch"
g)[85]	*(faian)*	"blame"
	**laian*	"revile"[84]
	saian	"sow"
	waian	"blow"
h)	*(bnauan)*	"rub"

Except groups d), e) and f) and possibly also g) (see footnote 86), all groups have root vocalism /a/, and each of them is followed by a resonantal segment (/r,l,m,n,i,u/). (The semi-vowels /i,u/ one would clearly at this stage describe as re-interpreted as full vowels

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[83] Neither *flōkan nor *laian exist in an infinitive form, or one from which the infinitive can be extrapolated.

[84] Verbs of groups f) and g) show ablaut in the preterite as well as reduplication. The ablaut alternation is *ē ō*.

[85] Group g) poses a problem, for even though as written the forms appear to have *a*-vocalism, the quality of the diphthong /ai/ in this instance is uncertain. Cognates in other languages (see below) seem to suggest that the IE vocalism was /ē/. The digraph *ai* is clearly problematic in Gothic. As well as this value it is also the graph used to symbolize /e/ (in the reduplicative syllables) and also the dipthong /ai/ as it appears, *inter al.*, in the preterite I of the first class of strong verbs. Convention distinguishes them using an acute accent: *ái* = /ai/, *ai* = IE /e/, *ai* seems to correspond to an /ē/, at any rate this latter is more open than IE /ē/.

following the analogical development of the semi-vowels in the ablaut classes 1 and 2, where they form diphthongs.[86]) This *a*-vocalism is significant when one compares the reduplicating class with the first five classes of ablauting verbs. All of these latter show *e*-vocalism. There is clearly a neat split between those verbs with /a/ in the stem and those with /e/. The first five classes with /e/ have IE /o/ in the strong form of the preterite (Pret. I). This /o/ in Germanic becomes /a/. Those verbs therefore with /a/ in the present, whether or not they derive from IE /a/ or IE /o/ appear to have a vocalism in the present which one would expect in the preterite. The inherited IE alternation between /e/ and /o/ as a means of identifying tense cannot work in the verbs in Germanic which have *a*-vocalism. Those verbs with short /a/ in the present stem (Class 6) form their preterite by lengthening the vowel to /ō/.[87] The others with /a/ followed by resonants are unable to lengthen their vowels, as long diphthongs do not find a reflex in Germanic and are shortened to the relevant short diphthong.[88] Verbs with /ai/ and /au/ therefore would have no alternation.

What has any of this got to do with the reduplication in Gothic? It is now clear that of the possible inherited ways of forming the full grade perfect form (through *e*/*o*-ablaut or lengthening) neither can apply to the Gothic seventh class reduplicating verbs in toto.
It has been observed[89] that the verbs of the seventh class have unequally spread etymologies, in contrast to the verbs of the first five classes with their inherited *e*/*o*-ablaut which do have clear etymologies. Some groups of Class 7 verbs have difficult or opaque etymologies whereas in particular the verba pura (and to a lesser extent the verba impura) have good etymologies.[90] By view of their phonological structure (absence of root final consonant in

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[86] Class 1 has /ei/, and class 2 /eu/.

[87] As we saw earlier in section **5.2.3**, the developments in the Germanic vowel system mean that the long counterpart to short /a/ was long /ō/

[88] One possible and controversial exception to the loss of long diphthongs would be /ēi/ which has by some been used to explain the heritage of the Germanic vowel /ē²/ which develops differently to the reflex of IE /ē/ which becomes /ā/ in German. The question of the heritage of the Germanic vowel /ē²/ will be discussed later in this chapter.

[89] MEID (1971, 71-72):

> Wenn man die ... Verba [der 7. Klasse] nach ihren etymologischen und morphologischen Bezügen untersucht, so ergibt sich ein uneinheitliches Bild, was die Verankerung der Verba im Indogermanischen bzw. im Vorgermanischen betrifft. Jedoch gibt es deutliche Schwerpunkte. Während die Verba der Gruppe I (Wurzelvokal *ai*, *au* bzw. *a*) nur in wenigen Fällen gemeinindogermanisch sind, meist jedoch nur begrenzte Entsprechungen haben oder ganz ohne außergermanische Entsprechungen sind oder aber auswärtigen Anschluß nur auf der reduzierten Basis einer 'Wurzel'-Etymologie finden, sind bei den Verba der Gruppen II und III (Langvokal mit bzw. ohne folgenden Konsonant) die indogermanischen Bezüge zahlreicher und deutlicher. Ja, in Gruppe III [verba pura] sind sogar mehrere Verba enthalten, die man nicht nur als gemeinindogermanisch, sondern darüber hinaus sogar als altindogermanisch ansehen darf.

[90] It is interesting to note here that the verba pura and impura in Gothic are also those verbs in the seventh class which show evidence of ablaut in the preterite tense as well as using the reduplication of the other verbs of this class. According to WRIGHT (1954, 148) only *slēpan* "sleep" (and possibly - *blēsan* "blow") and the verbs with Gmc. /o/ in the present root do not exhibit ablaut amongst verbs of this type.

Germanic) the verba pura can perhaps be seen as an aberrant group; but, nevertheless, the difficulty of the other verbs of the class in their heritage is extremely interesting because it throws up the problem of how in fact the Germanic reduplicating verbs ever became so if they do not represent IE verbs which reduplicate. Remember, both our examples, Greek and Sanskrit, had perfects which almost without exception are formed using reduplication. The majority of Germanic verbs have ablaut, and the majority of ablauting verbs have clear etymologies. If the reduplicating verbs had clear etymologies then one would expect them to ablaut, instead they redouble, which on the evidence of our IE examples is the device preferred.

At this point I give a list of the reduplicating verbs from above along with their "etymologies", to give a clear picture of the data. These etymologies are gleaned from FEIST (1939), POKORNY (1959) and SEEBOLD (1970). I shall primarily list only verbal cognates, that is where the Gothic verb is clearly related to other IE verbs. Giving non-verbal cognates would be misleading, for they would not entail the existence of an IE verbal cognate. The verbs are listed according to the groupings above.

7a)	*-áikan*	- "nichts sicheres" (SEEBOLD, 1970).
	fráisan	- "etymologische Anknüpfung unsicher" (FEIST, 1939).
	háitan	- "sichere auswärtige Beziehungen fehlen" (FEIST, 1939).
	láikan	- OI *réjati* "cause to jump", NPers. *ālēxtan* "jump", Lit. *láigyti* "run around wildly".
	máitan	- "etymologisch dunkel"(FEIST, 1939) But possibly OI *méthati* "injured", OLit. *apmaitinti* "wounded".
	skáidan	- Gk. σχάω "slit", Lat. *scio*, *scīre* "know".
	þláihan	- "ohne sichere Etymologie" (FEIST, 1939).
b)	*áukan*	- Lat. *augeō* "increase", Gk. ἀύξω "increase".
	hláupan	- "Etymologie unsicher"(FEIST, 1939) but POKORNY (1954) has Lit. *klumpù*, *klùpti* "stumble".
	stáutan	- OI *tudáti*, *tundáte* "pushes", Lat. *tundō* "push".
c)	*-alþan*	- ? Lat. *alō* "nourish", but through the etymology of the noun *alþeis* "old" from Lat. *altus* "high", so probably not from the Latin verb, rather a later derivation from the adjective *alþeis*.
	blandan	- OBulg. *bleda* "err", Lit. *blendzus* "become dark".
	fāhan	- Lat. *pangō* "fasten".
	falþan	- no verbal cognates.
	gaggan	- OI *jáhāti* "goes forth".
	hāhan	- OI *sáñkate* "doubts,wavers", Lat. *cunctor* "hesitates".
	haldan	- "keine sichere Etymologie" (FEIST. 1939).
	-praggan	- "keine sichere Etymologie" (FEIST. 1939).
	saltan	- Gk. ἁλίζειν "salt", although it may be an independent derivation from the noun.
	-staggan	- "Etymologie unsicher" (FEIST. 1939).

	staldan	- difficult. FEIST links it possibly with IE **stha-* "stand", whereas POKORNY (1954) links it with IE **stel-*, Gr. στέλλω "set up", Lat. *stultus* "foolish".
	waldan	- Lat. *valeō* "fare well", Latv. *walāt* "control".
d)	*blēsan*	- Lat. *flō*, *flāre* "blow".
	slēpan	- links with Lat *lābor* "slide", "weitere Beziehungen unsicher" (FEIST, 1939).
e)	*blētan*	- no verbal cognates.
	flōkan	- Gk. πλάζω "beat", Lat. *plangō* "beat one's breast". OBulg. *placa* "cry, mourn".
	hwōpan	- "ohne sichere Etymologie" (FEIST, 1939).
f)	*grētan*	- OI *hrādate* "sounds, intones", or contamination from cognates of OI *ródate* "cries".
	lētan	- Lit. *léidzu* "let", Gr. λήδειν "be tired, lethargic".
	-rēdan	- OI *rādhyati* "succeeds", Lit. *ràsti* "find".
	tēkan	- Toch B *teksa* "touched"? It has been linked with Lat. *tangō* "touch", but as Feist (1939) points out that the lack of Lautverschiebung makes this difficult.
g)	*faian*	- no verbal cognates.
	laian	- OI *rāyati* "barks", OBulg. *laja* "bark".
	saian	- Latv. *sēju* "sow", Lat. *serō* "sow".
	waian	- OI *vayati* "blows", OBulg. *vejati* "blow".
h)	*bnauan* "shave")	- "keine sichere Etymologie" (FEIST, 1939). (? χναύω

If from this list we take those verbs with the safest and clearest etymologies we create a much shorter list thus: *láikan, skáidan, áukan, stáutan, blandan, fāhan, gaggan, waldan, blēsan, flōkan, grētan, lētan, -rēdan, laian, saian, waian*. This means that 17 of the 36 verbs (i.e less than half) belonging to Class 7 in Gothic are clearly cognate with verbs in other IE languages. This presents a problem. Because the majority of verbs from this class do not have clear etymologies, one would expect that they would utilize tense formations which were broadly in use throughout the rest of the system,and not one different from the rest, as is the case with Class 7. The fact that they do so is perplexing. Both ablaut for the rest of the Gothic system and reduplication for the verbs of the class in question are devices inherited from IE, as we have seen in detail from earlier chapters of the present work. Neither of them, in the forms we see in Gothic, can in any way be said to be innovations within Germanic. And yet the data above seems to suggest that the verbs of this class themselves are to a certain extent neologisms within Germanic. As I explained earlier, the verbs in Class 7 could not use the inherited ablaut alternation seen in the first five classes (*e/o*), nor could they easily and without confusion use lengthening as a means of tense distinction like Class 6. The only route left open to them, and using patterns from the inherited IE pool, would be to use reduplication. But what about those verbs (as we saw, more than half the total) which appear to have no IE cognates? Why should they have fallen into Class 7? The only explanation is to say that those Class 7 verbs which are of IE origin and which, therefore, could legitimately exhibit reduplication, must have exerted an analogical influence on those verbs of Class 7 which are not IE. Because of the paucity of Gothic evidence no explanation can be exhaustive, and indeed we still have the enigma of those Class 7 verbs which, as well as showing reduplication, also show ablaut. These would not present such a sticky problem if the verbs that showed ablaut had a consistent structure, or if there were no verbs which resembled structurally those verbs which do show ablaut without doing so themselves. From the lists above it is the verbs of groups f) and g) which show ablaut. The ablaut alternation of group f) mirrors that of the first five classes of strong verbs, that is it exhibits *e/o* alternation, albeit in a lengthened version $\bar{e}/\bar{o}$. However, we are left with the verbs in group d) which have a root structure identical to that of group f) but which do not show ablaut. What should we make of these? *-blēsan*, in fact, does not occur in the preterite tense, so we cannot even be certain that it was a verb which used reduplication, let alone whether it had ablaut or not. Attributing it to group f) might appear just as arbitrary as attributing it to Class 7 in the first place. In fact if we assume that it did have ablaut and thus belongs to group f) we are left with only the one verb, *slēpan*, which has the relevant root structure but which does not show ablaut. Unfortunately the verb

slēpan is attested five times as a reduplicated preterite, each time without ablaut.[91] Unless we throw out each of these occurrences, there does not seem to be a satisfactory way of explaining the discrepancy. Either *slēpan* is the odd man out, or both groups f) and g) are the odd men out. Set against the evidence of class seven as a whole, it would seem that group d) follows the norm; yet at the outset I have stated that the verbs of the class cannot be said to exhibit any degree of homogeneity apart from their continued use of reduplication in Gothic. They are bundled together purely *because* they reduplicate, so that within this notional seventh class they must be subdivided to give any kind of lucidity and order; after all the verbs of the first five classes are divided according to the phonological structure of the root. The seventh class as it stands is not grouped in this way, rather it is grouped according to its morphological quirkiness. The conclusion is, then, that group f) is certainly of a type which can show ablaut because it exhibits the relevant vocalism, viz. /e/. That *slēpan* does not, is a mystery, particularly as the status of the vocalism of the four verbs with *ai* (*faian*, **laian*, *saian*, *waian*) begins to be confirmed as more likely to be *e*-coloured, as the etymologies seemed to show, rather than *a*-coloured, when we consider the fact that they also show ablaut alternation to /ō/ in the preterite.[92]

Because the evidence of Gothic is in effect restricted to Ulfilas' translation of the Bible, the language is a closed entity and only lends itself to synchronic study. We can guess how reduplication would have progressed, if indeed it was retained in later stages of the language. Gothic is interesting because it presents a Germanic language, or even a stage of the Germanic branch of languages, in which reduplication had acheived a degree of systematization. To what degree exactly is a moot point which produces various concomitant problems such as the question of whether at an earlier stage all the strong verbs in Germanic used reduplication as a means of forming their preterite tense. This question is vexed and may perhaps never be conclusively answered. It is a subject which provides the cornerstone to many theories which address the problem of the seventh class of Germanic strong verbs. And these theories we shall discuss later in this chapter. Firstly it is important to consider the relationship between the situation in North and West Germanic on the one hand and Gothic on the other. The occurrence of possible relic reduplicated forms in these dialects suggests that the there is a link between reduplication and the ablaut patterns of

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91 Three times without grammatical change (*saislēp-*): Luke 8. 23; I Thessalonians 4. 14; Matthew 8. 24; and twice with grammatical change (*saizlēp-*): John 11. 11; I Corinthians 15. 6. (STAMM-HEYNE's *Ulfilas*, 1920)

92 *faian* is not found in the preterite, so it is questionable whether it reduplicated or ablauted. It is however likely that it followed the similar verbs of the group. **laian* is not attested in the present tense, but we do possess examples of reduplication and ablaut.

North and West Germanic, especially as these reduplicated forms appear in precisely those verbs for which there is evidence in Gothic for reduplication.[93]

5.2.4.5 From Reduplication to Ablaut

The problem we are now faced with is how one gets from reduplication in the Gothic verbs to an ablaut relationship in the verbs of the other dialects of the group. The verbs are, as I have said, cognate in all the dialects and behave in a more or less coherent way in each of the dialects, so that we can speak of a cohesive unifying development. The way the dialects of OE, OS, OHG and ON differ from Go. is uniform, we can therefore speak of a homogeneous process from the state in Gothic to that which we find in the other dialects. Or can we? There is no question that Gothic belongs to the Germanic group of languages, but what position it takes within the group *is* questionable. Just because Gothic exhibits reduplication is no guarantee that the other Germanic dialects must also, at some earlier stage, have shown reduplication. Gothic, moreover, is preserved in only one major text, which at the very least means that we can only make assumptions and generalizations about the language with a large degree of caution. This all makes the problems of reduplication and of the structures in the other dialects that much more interesting and tantalizing. So we are left with two possibilities about the development of the ablaut situation in the dialects other than Gothic. Either the ablaut alternations, which we saw described in section **5.2.4.2**, are derived from previous reduplicated forms or they are not. But even this does not cover the whole story, for it still leaves open the question of the position and significance of reduplication for the entire Germanic verbal system. Here the question is whether reduplication was used in the other Germanic dialects at all, and if so to what extent. We have seen that there is no evidence to suggest that reduplication was ever a preterite morpheme throughout the entire system of strong verbs. This leaves us with the annoying question of why therefore, it should have become so only for these verbs in Gothic. The answer would seem to be that, from the stock of IE morphemes, Gothic had no alternatives applicable to a class of verbs which, in the first instance, have difficult etymologies in Indo-European, many being Germanic neologisms, and which, in the second place, have phonologies inappropriate to the overriding inherited IE pattern of *e/o* ablaut. That such an ablaut pattern had such an influence in Germanic can be seen by the fact that the Gothic reduplicating verbs with an *e*-vocalism in the present for the most part also show deflected grade forms in the preterite (e.g. *lētan* ~ *laílōt*).

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93 There are, as ever, exceptions to this, but they rather show evidence of analogy with other instances of "reduplication" in seventh class verbs (e.g. ON *slera*, from *slá* "hit" which technically belongs to the sixth class).

We have seen, in the other dialects of OE, OHG and ON, that there are examples of forms which seem to suggest that reduplication was at one stage common in these dialects too. We saw in the excursus how these forms could be described as reflecting reduplicated forms or how they reflected analogical developments with other forms which can be seen as reflexes of reduplicated forms. The reliability of some of these forms was called into question (OE *beoftun* and *speoftun*) but there still remained forms which seemed unequivocally to speak for an earlier general use of reduplication in the seventh class of strong verbs. If we accept this proposition then we must account for the development in West and North Germanic of a preterite formation without reduplication. Either the ablaut alternation we see there was a replacement for reduplication, or it was a development from it.

In the first case, it soon becomes clear that a motivation for the replacement is difficult to find. In this there are two considerations: what made reduplication so unpalatable that an alternative was found necessary? And where in the system did this alternative exist so that it could be put to a new use? It is linguistically improbable and typologically unlikely that the speakers of these dialects suddenly invented a new formation to replace one they did not like. But it is not improbable that they could have begun to use a formation already in existence which fitted their purposes more comfortably than reduplication. However, this would suggest that the ablaut alternations we find in the seventh class verbs of North and West Germanic are to be found elsewhere, and, as we shall see in the following sections, this is not the case. Assuming therefore that reduplication is the original preterite morpheme of this class, we are forced into the position that the ablaut alternation we see here is derived ultimately from originally reduplicating forms. So what can the motivation for such a development have been?

The reduplicating forms of the seventh class are longer by one syllable than the preterite forms elsewhere in the strong verb system. In this way the reduplicated froms may have been felt as clumsy and bulky and therefore more likely to lose one syllable whether it was simply dropped or lost through some form of contraction. A further consideration is the question of the accentuation of the reduplicated forms. For at least the first five classes it seems the accentuation in the preterite was on the root syllable in the singular and originally on the ending in the plural and past participle. This last is confirmed with the evidence from VERNER's Law. But when the accent shift took place in Germanic so that the accent in the plural and PP forms was on the root syllable, the question we must ask ourselves is whether the same shift took place in the reduplicating forms. It certainly seems that the accent in the singular was on the root syllable, but there is also some evidence to suggest that this was also

the case in the plural. The verb *slēpan* in Gothic shows some evidence of VERNER's law. The two forms, *gasaízlēp* and *gasaízlēpun*,[94] both seem to show that the root syllable was the one which, at the time of the evidence, was accented. The Germanic accent shift had the effect of giving Germanic a bound accent rather than the free accent of Indo-European. The accent now became bound to the first syllable. In the first five classes with their ablaut alternations this means that the root syllable becomes the uniformly accented syllable. However if the same thing were to happen in the reduplicating verbs then one might expect that the accent would fall on the reduplication syllable. As we see, these two examples from Gothic seem to exclude the possibility of this. It seems rather that the reduplication syllable, at least from the evidence in Gothic, was not accented, in the same way that the prefix *ga-* was not accented, being merely a bound morpheme. As we saw in **E1.3.1**, the quality of the reduplication vowel is contentious. It ought, to conform with the phonological developments of Gothic, to be /i/, but we see that it is in fact /e/. "The fact that the reduplicating vowel leveled to *e* in all instances indicates that it must have been perceived as a tense marking prefix that was attached to the verb stem by a morphological rule" (BARNES/ESAU 1973, 14). On the other hand D'ALQUEN (1988, 104) considers the opposite to be the case: "Go. *haihait saisō* etc. point to initial accent, because Go. *ai* (= Gmc. *e*) does not occur in unaccented syllables". However, the sound /e/ in Gothic is rare enough, occurring as an allophone of /i/ before /r,h,hw/, and in the reduplication suffix, for there to be uncertainty about its exact use and quality. That it is an allophone for /i/ which itself can occur in unaccented syllables surely means that there is nothing stopping /e/ occurring there also. The peculiar status of the reduplication syllable, in effect means that one cannot be quite certain, but the VERNER's law evidence appears to me to carry more weight.

It appears therefore that the evidence from Gothic shows that the reduplication syllable was not accented. What does this mean for our investigation? If we look again at some of the supposed reduplicated forms from Anglian which we saw in **E1.3.2**, we will see that they seem to suggest the opposite. *Leolc* and *reord*, for example, appear to have made the earlier reduplication syllable the main syllable of the word. The only way to explain this is to assume that the accent did in fact move to the initial syllable and that the reduplication syllable could bear the main stress of the word. How can we account for this when set alongside the evidence from Gothic which we saw a moment ago. BARNES/ESAU (1973, 14) explain it as follows:

> It is possible that the difference of stress placement accounts for the different developments into North-West Germanic on the one hand and into Gothic on the

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94 The first: John 11.11, and the second: I Corinthians 15.6; STAMM/HEYNE (1920).

> other. I.e. Gothic may never have shifted the stress away from the stem syllable, whereas the North-West Germanic dialects did, due to the fact that reduplication became more and more functionless.

In one way this does not quite seem to make sense. If a morpheme has become functionless, why accent it? In Greek, for instance, the reduplication syllable is accented, and there it cannot be said that the reduplication syllable is functionless. However, the position of the accent in the reduplicated forms is important in a discussion of the development of ablauted forms deriving from earlier reduplicated ones.

5.2.4.6 Contraction

Many theories explaining the ablaut alternation of the seventh class verbs of North and West Germanic wish to derive it directly from a contraction of the reduplication syllable and the root syllable. Such theories have held great currency throughout the history of study into Germanic historical linguistics. The first scholar to propose such a process as a way of explaining the discrepancy between the Gothic preterite formation and that prevalent in the other Germanic dialects was Jacob GRIMM (1870-98, 103):

> Aus háihald, fáifah, máimáit mögen die einsilbigen formen hialt, fiang, miaz, herrühren, obschon wir die mittelstufen nicht genügend nachweisen können: zunächst vorher ging vermutlich ein zweisilbiges hî-alt, fî-ang, mî-az, und diesen vielleicht hei-alt, fei-ang, mei-az; heihalt, feifang, meimaiz.

The main problem with theories involving contraction is the fact that one has to accept processes that do not appear elsewhere in the history of the Germanic languages. As D'ALQUEN (1988, 103) says:

> The contraction theories, by which the preterite vocalism evolved from contact of the reduplicating prefix and the root vocalism after loss of the intervening consonant(s), are the most appealing, but also the most frustrating, for although the vocalic development is exceptionally satisfying, removing the intervening consonants can only be achieved by setting up unlikely sound changes.

Such theories are of course appealing because they operate from two known poles. That is: the source of the development is seen in the Gothic reduplication model, and the result of the process is seen in the North and West Germanic forms. A procedure which links the two will quite naturally be attractive because it appears to solve many problems in one neat formula. However, it creates as many problems as it solves and hides a good deal of others. As D'ALQUEN says, the main problem is being able adequately to account for the disappearance of the intervening consonant between root vocalism and reduplication syllable, especially when this consonant can be one of many different phonemes.

Accounting for the loss of different phonemes is difficult. For instance HÖFLER (1970, 114-5) speaks of a "Verkürzungssprung", whereby "die zweisilbigen Präterita der rund achtzig reduplizierenden Verba durch die vielfache Majorität der einsilbigen Verba [...] infolge von Systemzwang zu einsilbigen umgeformt worden seien." This is something that scholars before had also used as the motivation for the development from reduplication to ablaut. LÜDTKE (1957) envisages a much more involved development in stages which carefully takes into account the examples from Anglian. LÜDTKE's (1957, 163-4) development follows three stages: 1) as a result of the accent shift to the initial syllable the root vocalism is shortened; 2) metathesis occurs when the root-initial consonantism consists of more than one consonant (e.g. **seslep* > **slesep*); 3) the middle consonant is now rendered "funktionsschwach" because the original consonantism is now found at word inital position. As a result of this the consonant in most of the Germanic area is lost. In Anglian the development is different in that the root vowel disappears instead of the consonant: **lelek* > **lelk* > *leolc*.

What happens, however, in both of these cases (HÖFLER and LÜDTKE), once this consonant has disappeared? In both theories we are left with the problem of how the remaining vocalisms can develop to what we actually find attested. The two theories are left with the following:

HÖFLER	LÜDTKE[95]
**hehait* > **he-ait* > ?	**hehet* > **he-et* > ?
**lelēt* > **le-ēt* > ?	**lelet* > **le-et* > ?
**fefall* > **fe-all* > ?	**fefall* > **fe-all* > ?
**hehrōp* > **hre-ōp* > ?[96]	**hehrop* > **hrehop* > **hre-op* > ?

What both of these sets of examples rest upon, in the first instance, is the supposition that the reduplicated forms became accented on the initial syllable according to the Germanic accent shift. As I have shown, evidence from Gothic contradicts this. Nevertheless there are other difficulties with these developments. The question marks point to where the difficulty lies. What happens after the loss of the consonants?

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95 The root vowels in LÜDTKE's forms have been shortened, remember, as a result of the accent shift.

96 HÖFLER does not seem to tackle the issue of forms beginning with two consonants in the way that LÜDTKE does. HÖFLER (1970, 117) seems to say that reduplication in forms with complex initial consonantism was itself complex so that the entire consonantism was repeated: **drerōd* (< **dredrōd*). This speaks against the evidence from Gothic and also the forms we saw in Greek and Sanskrit, except for verbs with initial consonant clusters containing a sibilant, which behave differently in all of the languages.

Both HÖFLER and LÜDTKE want the first three forms to develop to the vowel /ē²/. For HÖFLER this means deriving /ē²/ from three different vocalisms, for LÜDTKE from two. However, that is not the least of the problems in this respect. The quality of this vowel /ē²/ is also an issue, in addition to the question of its origins. It may help at this point to have a look at this curious vowel.

5.2.4.7 /ē²/

> Das Problem des sog. ē² ist niemals zur allgemeinen Befriedigung gelöst worden. (COETSEM 1956, 22)
>
> Die Herkunft des ē² ist bisher nicht einwandfrei geklärt. (SCHWARZ 1951, cit. LÜDTKE 1957, 157)
>
> ...its [/ē²/'s] origin has baffled Germanists since Jakob Grimm. (DURRELL 1975, 48)
>
> One of the thorniest problems in Gmc. phonology is the close ē known as ē² ... (CONNOLLY 1979, 1)

What in fact is /ē²/? An answer to this question would be a help in an attempt to discover its origin. The vowel that is designated such is generally accepted as a long close /ē/, characterized in Old High German by its later diphthongization into /ia/ > /ie/. It is distinct from the inherited IE long /ē/ (which is often consequently designated /ē¹/) which in North and West Germanic develops to /ǣ/ and then /ā/. In Gothic there is no orthographic distinction between the two /ē/'s, although scholars seem to acknowledge that /ē¹/ was more open than /ē²/.

As regards their respective occurrence, /ē¹/ appears often, precisely because it is the reflex of IE /ē/. On the other hand /ē²/ appears much more seldomly. LEHMANN (1955, 66f.) lists five environments in which /ē²/ appears:

1) those nouns and adjectives in which /ē²/ can be derived from IE /ēi/ [e.g. OHG *fiara*, Skt. *sphāra*]
2) the preterite forms of class 7 verbs which show Primary Germanic /ai/, /al,an/ + Cons, or /ǣ/ in the present.[97] [e.g. OHG *heizan*, *hiaz*]
3) Nouns with cognates showing /iz/ [e.g OE *mēd*, OHG *miata*, Gk. μίσθος]
4) some pronominal [sic!] forms [e.g. Go. *hēr*, ON *hér*, OHG *hiar*]
5) words borrowed from Latin with /ē/ in the Latin root syllable [e.g. OHG *biaza*, Lat. *bēta*, OHG *fiabar*

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[97] Gmc. /ǣ/ < /ē¹/ < IE /ē/.

For our purposes it is clear which group is the most important. But in one sense this is just the problem. The other occurrences of this odd vowel are so rare and isolated as almost to make them insignificant. And yet because in the preterite singular and plural for class 7 strong verbs of the type with an *a*-vocalism in North and West Germanic the vowel finds a permanent home and morphological application, we cannot ignore it.

We might also like to distinguish between what are primary occurrences of /ē²/ and what are secondary. For example, the cases of /ē²/ turning up in words borrowed from Latin only prove that at some point in the history of Germanic certain sounds appearing in Latin were rendered in Germanic using /ē²/. They do not tell us anything about the origin of /ē²/, because of necessity /ē²/ must already have existed before the borrowing took place.

The most conventional of all the theories to explain the vowel /ē²/ is to assume it is derived from the resolution of reduplicated preterites in Class 7 into ablauting preterites. Some of the processes outlined in the preceding section try to explain how reduplication was re-formed and lost so that the resultant forms, no longer resembling the reduplicated patterns of Gothic, develop a new ablaut alternation. This alternation has as its basis /ē²/ which is a product of the fusion of reduplication vowel and root vowel when the intervening consonant has been put aside. To look for the origins of /ē²/ in the preterites of Class 7 *a*-verbs is, after all, the most natural assumption to make. Purely as a result of the fact that /ē²/ is found in this environment more than in any other. We will have a look at an offshoot of the contraction theory, infixation, in a moment, but it might be worth while considering some other proposed origins for /ē²/.

The earliest attempt at explaining the occurrence of this vowel stems from the nineteenth century. JELLINEK (1889, 298) explains that /ē²/ stands in an ablaut relationship to /i,ī/: "Es scheint also, daß man germ. ē² als einen ablaut der ei-reihe zu betrachten hat." As a result of this supposition he then says "... daß ē² im germ. aus ēi enstanden ist" (1889, 300).
Later BRUGMANN (1895, 89) supports JELLINEK:

> Die von Jellinek und Sievers aufgestellte Ansicht, dass das urgerm. geschlossene *ē* in ahd. *hēr hiar*, *zēri ziari* und andern Wörtern aus vorgerm. *ēi* enstanden sei, empfiehlt sich dadurch bestens, dass bei den etymologisch klaren Formen Nebenformen mit *i*-Vokalismus teils im Germanischen selbst, teils in den verwandten Sprachen auftreten.

He goes further and proposes that /ē²/ derives from an ablaut alternation *ai~ei*, in which /ai/ was the reflex of /əi/ which was apparently the reduced grade of /ēi/. /ē²/ was the reflex of

the full grade /ēi/; thus an alternation /ai/ ~ /ē²/. However, this can only work for those seventh class verbs with /ai/ as the present tense vocalism. BRUGMANN assumes that the other verbs of Class 7 analogically inserted /ē²/.

Unfortunately both of these theories overlook the fact that if /ēi/ were to develop into /ē²/. this would be the only case of an IE long diphthong preserving an individual development into the Germanic dialects. All other long diphthongs coalesce with their short counterparts. It is therefore difficult to accept that /ē²/ would be an exception to this trend.

VAN COETSEM (1956 and later) saw a possibility for a development of /ē²/ from IE /ei/. At the outset this is problematic, because IE /ei/ regularly becomes /ī/ in the dialects of the Germanic branch. What VAN COETSEM is therefore arguing for is a split development of /ei/. And he bases this on the effects of an *a*-umlaut. When /ei/ appears before a high vowel (/i,j,u/) the development is to /ī/, but when /ei/ stands before a lower vowel (/a,e,o/) the development is to /ē/ = /ē²/. This sounds plausible but for the fact that if one follows the development logically one sees that the evidence from Germanic speaks overwhelmingly against it, as BECH (1969, 53) shows. He points out that if VAN COETSEM is to be believed the following must represent the conjugation of the preterite of **haitan* in OHG:

Ind Sing.	1	*hiaz*	Subj. Sing.	1 *hīzi*
	2	**hīzi*		2 **hīzīs*
	3	*hiaz*		3 **hīzi*
Pl.	1	**hīzum*	Pl.	1 **hīzīm*
	2	**hīzut*		2 **hīzīt*
	3	**hīzun*		3 **hīzīn*

Two out of these twelve forms represent what in reality is the case. According to VAN COETSEM levelling would need to begin from 1st and 3rd Ind. Sing., with these somehow affecting the whole paradigm to produce /ē²/ throughout.[98] VAN COETSEM also suggests the alternation was present in the present tense of Class 1 strong verbs, but that would, strictly, produce for Germanic **bītan* the following in OHG:

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98 CONNOLLY (1979, 16):

> "Since this pattern of ē²:ī would exactly parallel the distribution of the two preterite vowels of classes 1 through 6, there would have been great systematic pressure to retain any ē²: ī alternation in the new preterites."

Inf. **biazan*

Ind Sing.	1	*bīzu*	Subj. sing. 1	**biaze*
	2	*bīzis*	2	**biazēs*
	3	*bīzit*	3	**biaze*
Pl.	1	**biazamēs*	Pl. 1	**biazēm*
	2	**biazet*	2	**biazēt*
	3	**biazant*	3	**biazēn*

Here the true development is represented by the first three persons indicative singular, not even the infinitive remains unchanged. It would seem then that VAN COETSEM's theory does not live up to the evidence, there is no proof that a split in the present of 1st class verbs ever existed; and as has been shown the actual distribution of $\bar{e}^2$:$\bar{i}$ does not match VAN COETSEM's propositions well enough to be conclusive in favour of his theory. By deriving /$\bar{e}^2$/ from IE /ei/ VAN COETSEM is able to set up an ablaut system in Germanic in which those verbs with present tense forms in /a/ + sonant show a preterite tense with /e/ + sonant. This would mirror exactly the state of affairs in the first three classes. It is therefore a necessary expedient to VAN COETSEM's entire theory that /$\bar{e}^2$/ derives from /ei/; without such a development the whole theory becomes untenable. I shall mention this theory of mirror analogy again in chapter 6 when we look back at the Germanic verbal ablaut system as a whole.

Another theory which deserves some attention, especially in the light of these attempts to derive /$\bar{e}^2$/ from IE /$\bar{e}$i/ and /ei/, is that of BARNES/ESAU (1973). Just as BRUGMANN they too conclude that /$\bar{e}^2$/ must stem from IE /$\bar{e}$i/. They do, however, derive it in an altogether more satisfying way.

Their premise is the fact that the two IE diphthongs /ei/ and /eu/ were raised at a very early stage to /$\bar{i}$/ and /iu/ respectively. What this in effect does is remove one of the diphthongs, /ei/, from the diphthong system and places it in the long vowel system. What this means for the rest of the diphthongal system is that when the long diphthongs converge with the short diphthongs there is nothing for /$\bar{e}$i/ to converge with and it is left out on a limb. Because there is no short counterpart, BARNES/ESAU suggest that to become shorter /$\bar{e}$i/ lost the second element rather than losing the length of the first element. Thus /$\bar{e}$i/ > /$\bar{e}$/ = /$\bar{e}^2$/. And:

> The establishment of the seventh verb class allowed the vowel to be retained as a separate phoneme in those dialects of Germanic where $\bar{e}^2$ is distinct. (BARNES/ESAU 1973, 19)

This development would at least account also for the forms listed under LEHMANN's 1), those Germanic words which can be traced back to cognates with IE /ēi/. That it becomes the vowel of Class 7 verbs is still problematic, for the very fact that a motivation is needed. Why should the seventh class use this phoneme? BARNES/ESAU are not contraction theorists. They assume that reduplication became unproductive, or was never productive, in Germanic and was lost. They then see a case for the introduction of the phoneme /ē/ as the only possible vowel for the class, having taken into account the principles by which class 6 uses length as a tense marker. This /ē/ plus a following /i/ (e.g in **haitan*) develop into /ē²/.

5.2.4.7.1 /ē²/ and Laryngeals

Other attempts at explaining /ē²/ have been based around the laryngeal theory, which we discussed earlier in an explanation of the reduced grade in section **2.2.2.1.1**. Foremost among such explanations are the work of LEHMANN (1955) and CONNOLLY (1979). Essentially the work of CONNOLLY is a criticism of LEHMANN, but we will discuss both works in evaluating the usefulness of the laryngeal theory in explaining /ē²/.

LEHMANN's explanation of /ē²/ in the preterites of class 7 verbs rests on his claims that these class 7 verbs can in some cases be shown to have IE etymologies which suggest original forms containing laryngeals. For example he links Gmc. **maitan* to Gk. σμίλα and thereby to a PIE form /meXy-d-/; likewise he links Gmc. **bannan* to Gk. φάμι "say" and Lat. *fāma* "report", and thus to PIE /bheX-n-/. LEHMANN seems therefore able to conclude that "in the second group of words with /ē²/, the preterite forms of three sub-classes of 7th class verbs, /ē²/ developed from /e/ and laryngeal before resonants [i.e. /y,r,l/]" (1955, 71). The immediate problem we see from this is that he appears to make no allowance for a difference between the present and the preterite tenses. LEHMANN seems to be proposing a development which applies both to the present as well as to the preterite forms. Showing us the PIE cognate with the laryngeal is all very well in explaining the vocalism in the present tense, but LEHMANN wants the same for the preterite tense forms with /ē²/. This may not be a problem for those verbs of the type **haitan* or **bannan* which LEHMANN assumes have developed from weak grades of a PIE vocalism, so that the preterite can be derived from a normal grade form. The cognates that LEHMANN gives seem to support the fact that the 7th class present forms may well be derived from weak grade forms. However, there is a problem when one comes to those class 7 verbs with /ǣ/ in the present tense and which cannot be traced back to weak grade forms. LEHMANN (70-71) claims that the laryngeal proposition can also be made to work on the basis of BRUGMANN's suggestion (BRUGMANN/DELBRÜCK 1897-1916, I, 1, 203 fn.) that the development of /ēi/, in

BRUGMANN's case, to /ē²/ (and therefore reflecting LEHMANN's /eXy-/ > /ē²/) was defined by the "position of the syllable boundary". If the /eXy/ was followed by an ending beginning with a vowel, the /i/ (of BRUGMANN) or the /y/ (of LEHMANN) would be lost, giving the present tense vocalism (the present tense predominantly having endings beginning with vowels). In the preterite, however, the endings begin overwhelmingly with consonants, and in these cases it is suggested that the /i/ or /y/ is retained allowing for the development to /ē²/. Whatever the actual development is here, there is a much greater problem with the theory as it stands, and which CONNOLLY (1979, 7) points out. This problem is LEHMANN's refusal to be absolutely clear about the nature of the laryngeals he is using. It seems that in his reconstructions LEHMANN is, in fact, making use of an *a*-colouring laryngeal (*A*) which, in effect, contradicts the development to /ē²/ which he proposes. CONNOLLY (1979, 7) notices an actual contradiction in LEHMANN's analysis, whereby it would seem he regards *A* as *not* colouring /e/ to /a/, when in fact in the same work he later explicitly says that it does (LEHMANN 1955, 98).[99] CONNOLLY (*ibid.*, 9-10) also re-appraises the proposed etymologies of the 7th class verbs in LEHMANN's study. He finds that the laryngeals in the cases of verbs with /ai,au,an,al,ar/ should all be *a*-colouring and are therefore "completely impossible" for LEHMANN's proposal to work. /eXy/ now becomes /e*A*y/ which, if anything would produce /ai/, following CONNOLLY (1979, 8).

CONNOLLY does still want to see laryngeals as the heritage of /ē²/. However, he regards the occurrence of /ē²/ in the preterites of class 7 verbs as a Germanic innovation echoing the laryngeal-less work of VAN COETSEM (1956). The similarities with VAN COETSEM (1956) do not stop there. CONNOLLY likewise sees the force of the reverse analogy argument, first proposed by VAN COETSEM. I shall talk about this principle in chapter 6, when the systematization of ablaut in the entire Germanic verbal system will be the issue. What CONNOLLY proposes for /ē²/ in Class 7 verbs is that those with laryngeal derivations replaced /a/ with /e/ once the effects of the PIE laryngeals had passed, thus avoiding the *a*-colouring question that makes LEHMANN's proposal untenable. This replacement of /a/ by /e/ is as a result of the principle of *e*~*a*-ablaut and the distinction between different tenses using the alternation of *e* with *a*.

As a conclusive derivation of the strange vowel /ē²/, CONNOLLY's suggestion falls foul of earlier criticisms of other theories which were unable to account for all the occurrences of /ē²/ in a unified explanation. CONNOLLY is forced to propose different developments for the /ē²/ that is seen in such words as OHG *fiara*, *hiar* etc. and the /ē²/ in class 7 preterites.

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[99] LEHMANN's X can be identified as *A* (CONNOLLY 1979, 7-8).

Ironically, this failure to come up with a universal theory for /ē²/ is precisely the criticism brought by CONNOLLY (1979, 3) in his analysis of earlier scholars on the subject.

The theories which concern themselves with the difficult vowel /ē²/ as it appears in the Germanic 7th class verbs can be divided into two groups: those which regard /ē²/ as a Germanic innovation (that it is introduced from elsewhere into the 7th class preterite forms), and those which see it as continuing patterns, or developing from forms, of an earlier period. This last group contains both the contraction theories, whether or not through an intervening period of infixation, which derive the vowel through phonological developments within originally reduplicating forms, and theories such as that of BRUGMANN where /ē²/ is derived from an inherited IE ablaut series based around /ēi/. Each of the theories has been seen to be open to substantial criticisms. This would lead us to believe that a satisfying theory still eludes researchers. This may be, but I shall leave the question of /ē²/ until I come to tackle the systematization of the Germanic verbs as a whole, when a motivation for the various still unexplained phenomena will perhaps be easier to distinguish.

5.2.4.8 Infixation

Our discussion of /ē²/ interrupted our consideration of theories which tried to explain the position in class 7 as having derived directly or indirectly from originally reduplicating forms. We examined some theories of contraction, which see reduplicating forms contracting to one syllable in a process which, following the loss of the intervening root initial consonantism, merges the resultant vowel cluster into /ē²/ and /eo/ > /eu/. A sub-branch of these theories is represented by ideas which can be grouped under the term infixation.

Infixation is the term given to a type of affixation which is neither prefixation nor suffixation, but in which the affix is inserted into a word or morpheme. TRASK (1993, 141) gives as an example the Tagalog inflected forms *sumulat* and *sinulat* from the root *sulat* meaning "write". Here one can see that the the strings *-um-* in the first and *-in-* in the second have been placed within the root (*s-ulat*). KATAMBA (1993, 45) gives such facetious yet productive forms from Modern English as *Kalama-goddam-zoo* from *Kalamazoo*, and *kanga-bloody-roo* from *kangaroo*; and in the film *A Fish Called Wanda* the chief villain is heard to utter the expletive *unbe-fucking-lievable*. Facetious they may be, but they show that language has the ability to interweave words and morphemes without confusing the sense. The meaning of the English forms is not lost, indeed it is more than clear. And in such

languages as Tagalog (and Arabic) where infixation is a primary morphological tool the language relies on this interweaving to give its words grammatical meaning and relevance.

What does all this mean for a treatment of the reduplicating verbs of the Germanic strong class seven?

5.2.4.8.1 Reduplication > Infixation

The many theories using infixation as their starting point in the past twenty years have derived at least in part from the monograph of BECH from 1969: *Das germanische reduplizierte Präteritum*. In this BECH proposed that reduplicated forms became obfuscated on account of the operation of VERNER's Law on the consonant of the root syllable. As an example of this let us take the Germanic root **hait-* "call".

**hait-* (pres.): **heháit-* (pret.) > **heɣait*

In the reduplicated form which does not show VERNER's Law (**heháit*) we can see that the integrity of the original root as seen in the present tense is preserved. The reduplication prefix is clearly still regarded as such, and the root is intact. There is a simple relationship between the present unreduplicated form and the preterite reduplicated form. However, if we take on board the evidence of such forms from other dialects as Go. *saízlēp* and ON *sera* which seem to point to the fact that the reduplicated forms underwent the changes brought about by VERNER's law, then we must posit for all reduplicated forms a stage at which the root initial consonant, if susceptible to the changes of VERNER's Law, had a voiced allophone which, as the evidence from VERNER's law in other strong verb classes shows, later became phonemicized and fell together with existing voiced phonemes of the relevant place of articulation (thus the spirant /ɣ/ coalesces with the voiced stop /g/). But the effect of such a change on the initial consonant of the root means that the roots of the present and preterite forms now have different initial consonants. The congruency of the other verb classes in this respect is lost. BECH, amongst the other infixationists, sees this root-initial consonant (BECH: "thematischer Anlaut") along with the reduplication vowel as being re-interpreted as an infix at some point after the operation of VERNER's Law. In this way the initial consonant of the reduplication syllable and thus of the entire word (BECH: "absoluter Anlaut") becomes de facto representative of the initial consonant of the unreduplicated root. Schematically this looks something like the following:

hait- : he-háit > he-ɣáit > h-eɣ-áit

What was a root with a prefixed reduplication syllable can also be understood as a root with an infixed syllable. The motivation for such a re-analyisis of reduplication by the speakers is the confusion or lack of clarity caused by the effects of VERNER's Law. The reduplicated forms become phonologically alienated from the underlying roots they are supposed to represent, and, in order to redress the balance and re-introduce the relationship of the derived forms and the roots, the reduplicated form becomes re-interpreted as infixed thereby leading to the identity of root initial consonants in both original and derived formations. It will at once be clear that this re-interpretation bears striking resemblance to the structure of the infixed examples from Tagalog above. So in a very clinical way at least the idea of such an infixation is linguistically and typologically possible from the evidence of other languages around the globe.

A mere re-interpretation of the data hardly aids the discussion of reduplication in seventh class strong verbs if we do nothing with it. It has been proposed (by BECH 1969 and D'ALQUEN 1988) that once the formations have been re-interpreted as infixes the process can be generalized as one of infixation of a particular infix type, so that reduplication is made redundant and verbs begin to insert a morphemicized infix. Using the evidence of the remnant reduplicated forms from Anglian, Old Norse and Old High German just such a generalization of infixation is postulated. Once one infix in particular is accepted as the one morpheme of the preterite tense in Class 7 verbs, then there need only be one explanation for the development of non-reduplicated forms out of reduplicated ones. So the theory goes. And it is convincing, at least in its most recent incarnations. The crux of the whole matter is the role played by accent and the accent-motivated operation of VERNER's Law. The re-interpretation as infixation is a direct result of the action of VERNER's Law, which affect the consonants /f,θ,x,s/ when accent does not precede them, causing them to become voiced to /v,ð,ɣ,z/. This assumes that in the reduplicated forms the accent was borne by the root and not the reduplication syllable. This accords well with evidence from the Sanskrit perfect in which the reduplication syllable does not bear the accent but rather either the subsequent root syllable or the suffix (e.g. Skt. *cakára* "I have done", *cakrmá* "we have done"). The evidence from Gothic shows little effect of VERNER's law in the reduplicated preterite of Class 7; in fact it would seem that the only evidence is the twofold occurrence of the form *saízlēp-* from the verb *slēpan* "sleep". Gothic shows no effect of VERNER's Law anywhere else in the strong verb system, although that itself does not necessarily mean that it was not active. The voicing caused by VERNER's law would in its inception merely have produced voiced allophones in certain environments. For these allophones to be recognized in the

script would entail a degree of phonemicization, evidence for which we have only in the forms of *slēpan* with /z/.

Let us consider how D'ALQUEN (1988) envisages the development to the unreduplicated forms of North and West Germanic from originally reduplicated forms via the application of an infixation theory. We will also bear in mind the work of BECH (1969) and FULK (1987); the former being the inspiration for D'ALQUEN's work on the subject and the latter being an alternative theory to D'ALQUEN tackling the problem from a slightly different perspective and with differing motivation.

Let us postulate some Germanic examples of verbs which undergo the re-interpretation as an infix:

**haitan*: **he-háit* > **he-ɣáit* > **h-eɣ-áit*
**fallan*: **fe-fall* > **fe-vall* > **f-ev-all*
**saltan*: **se-salt* > **se-zalt* > **s-ez-alt*

These examples represent three of the types of environments which would have undergone the effects of VERNER's Law. (They each have a single consonant before the root vowel, rather than a consonant cluster, verbs of which type I shall come to shortly.) And I have shown the re-interpretation as a result of VERNER's Law which would have taken place according to the infixation theory as outlined above. D'ALQUEN (1988, 106-107) lists a string of verbs which would have been aligned to these three examples on account of their consonantism, so that he has 9 verbs which would have an infix of the type **h-eɣ-áit*, 17 of the type **f-ev-all* and a similar number which would either have an *-ez-* infix or an *-er-* infix;[100] the latter would have been the normal development for an intervocalic /z/ as seen in

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[100] According to D'ALQUEN (1988, 106-107) these verbs are as follows, listed according to type of infix:
-eɣ-: **haitan*, **haldan*, **hāhan*, **hlaupan*, **hauan*, **hrōpan*, **gangan*, **grētan*, **grōan* (D'ALQUEN misses: **hlōwan*?, **hwētan*, **hwōpan*, **hwōsan*, **glōan*).
-ev-: **fallan*, **fāhan*, **flōkan*, **falþan*, **fraisan*, **flōan*, **fēan*; and possibly: **bannan*, **bēgan*, **būan*, **blandan*, **blēsan*, **brēdan*, **bnuan*, **bautan*, **bēsan*, **blōtan*. (Oddly D'ALQUEN misses: **blēan*, **blōan*, **falgan*?, **faltan*?, **fūan*?).
-ez-/-er-: **sē(j)an*, **saltan*, **slēpan*, **stautan*, **skraudan*, **skaldan*, **spaltan*, **spannan*, **skaidan*, **snūan*; **rōan*, **rēdan*, **rēkan*. (Other verbs here might be: **skannan*?, **spaitan*, **spōan*, **staldan*, **swaipan*, **swōgan*,**raiwan*?).
(**-eð-:** **þlaihan*, **þrēan*, **þrōwan*?; **daugan*?, **drēdan*; D'Alquen misses entirely the possibility of a third infix based on the verbs with Gmc. /θ/).
(Verbs beginning with /g,b,d/ would possibly have retained a spirant quality medially. PROKOSCH (1939, 75): "The Germanic voiced sprants, b ð h, tended to become voiced stops...In Gothic and

the evidence of VERNER's Law in the other classes of strong verbs in the other Germanic dialects (OHG *kiusan-gikoran* "choose"). In this way the infix *-er-* < *-ez-* (e.g. **sē(j)an*: becomes **s-ez-ō* "sow", cf. Go. *saísō* and ON *sera* < **sezō*) and the infix *-er-* < *-er-* (e.g. **rōa*: **r-er-ō* "row", cf. ON *rera*) would have fallen together and have become, in effect, the same infix. D'ALQUEN and BECH both point out the evidence from the relics in Norse, Anglian and Old High German which seem to support the idea that infixation did in fact occur. The Old Norse verba pura with their alternative formation with an *-er-* element would suggest that on analogy with the verbs *sá* and *róa*, which would regularly have had reduplicated preterites with *-er-* < *-ez-* and *-er-*, the other verba pura utilized what appears to have become a morphemicized way of producing the past tense with an infix based around the preterites of *róa* and *sá*. Thus we get the forms *snera*, *grera*, *gnera* from the verbs *snúa* "twist", *gróa* "grow", *gnúa* "rub", and analogically to a sixth class verb, *slá* "strike", we get the form *slera*. In Old High German the *r*-preterites we saw in the reduplication excursus might also be interpreted in this way; that they employed an infix that was in use in other verbs in the class. In *kiscrerot* (from *scrōtan*) and *steraz stiriz* (from *stōzan*) we might have forms in which the sibilant has been rhotacized once accompanying consonants had been lost through dissimilation:

**skeskraud* > **skrezáud* > **skreráud* > **skrérot*
**stestaut* > **stezáut* > **steráut* > **stéroz*

From these we can see how the infix might have been extended to produce the attested forms *pleruzzun* and *capleruzzi* from *bluoan*, *biruun* and *biruuuis* from *būan*. These examples from OHG and ON show how an infix *-er-* might have been extended but there is also what might be seen as evidence for assuming the existence of an infix *-ef-*/*-ev-*. This is seen in the Northumbrian forms *beoftun/beaftun* and *speoft/speaft*, which we saw earlier. D'ALQUEN (1988, 108) envisages their development so:

**bautan* > **beƀaut* > **b-eƀ-aut* > **beft* (through syncope)
**spētan* > **spespēt* > **sp-eƀ-ēt* (by analogy) > **speft* (through syncope)

And to support the development, D'ALQUEN can cite the case of the form *blefla*, a preterite to *blāwan*, which shows affinity to the ON preterites *sera* and *rera*. In these there is no syncopation as there is in the forms that derive form preterites with consonantal auslaut. D'ALQUEN's point is that "[s]yncope is not likely without a final stop or fricative". In these cases the final vowel is weakened: **bleƀlā(w)* becomes *blefla* presumably with initial

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Norse there is least evidence of these changes...while in Upper German the change is complete"; IE /bh, dh, gh/ > Early Gmc. /β,ð,ɣ/ > Upper Germ. /b,d,g/.)

syllable accent. We have then with the help of D'ALQUEN (1988) shown how three infixes might have come to be developed from originally reduplicating forms which had become opaque and unpredictable in form because of the action of VERNER's Law. The problem at this point of an infixation theory is that there are too many different preterite morphemes for a single one, *ē²/eo*-ablaut, to develop regularly. It is more difficult to accept that *ez er*, *ev*, *e j* all develop to /ē²/ or /eo/ than to assume some kind of unifying process in the infixes, so that the development to ablaut can be less diffuse. This is exactly what has happened in the case of the various infixation theories. BECH (1969), although identifying the fact that through VERNER's Law reduplicated forms would have become less clear, assumes that only one infix from those that D'ALQUEN presents was in fact morphemicized. He jumps at the evidence from Old Norse in the verba pura all of which, as we have seen have an *-er-* element in the preterite beside regular weak forms with the dental suffix. The analogy which was working here in the ON verbs in regard to an *-ez-/-er-* infix, and which he invokes in the OHG *r*-preterites, which we saw earlier, he sees as a powerful argument for the generalization of this particular infix above the possibilities of the others which D'ALQUEN proposes. On the basis of actual "infixed" evidence (ON and OHG) Bech's proposal is convincing. Yet as D'ALQUEN (1988, 105) points out, the verbs on which we rely for this infix to be generalized are relatively few:

> BECH's ingenious and laudable attempt to explain the quasi-ablaut of class VII preterites in Norse and West Germanic on the basis of an infix *-ez-* would be more plausible if the whole process were not traced back to such a small starting point: **se-zō > s-ez-ō* for the verba pura and **se-zalt > s-ez-alt* for the verba impura.

BECH does not see the possiblilty of a generalized *-er-* infix which develops from original *-ez-* through rhotacism. BECH's development, based purely on *-ez-*, is as follows (1969, 26):

> Wir sind also zu der Hypothese gelangt, daß nwg. ē-Prät. das letzte Ergebnis einer Entwicklung ist, die drei Stufen umfaßt: 1° *ez*-Neuerung, 2° Synkope, 3° Ersatzdehnung, welche in der angegebenen Reihenfolge eintreten:
>
> 1° Zuerst wird die *ez*-Neuerung durchgeführt [...]
>
> 2° Darauf findet eine Synkope statt, durch welche der Vokal der zweiten, urspr. thematischen Silbe als silbenbildendes Element verloren geht.
>
> 3° Und schließlich wird durch Ersatzdehnung das somit in vorkonsonantische Stellung geratene *ez > ē*.

To illustrate this development let us take the verb **rēdan*. Following the first of BECH's stages we expect the form **rezēdun*, then in stage two to **rezdun* and finally with compensatory lengthening upon loss of the *z*-element **rē²dun*. this is all very well for the verbs which show /ē²/ and its reflexes in the dialects but not so easy and defined for those verbs which have /eo/. BECH's solution of this is indicative of others', even D'ALQUEN's:

> Der Unterschied ist kaum anders erklärbar sls durch die Annahme, daß die gerundeten Vokale germ. *au*, *o*, *u* bei der Synkope ein konsonantisches Reduktionsprodukt hinterlassen, das wir als *w* notieren können. Vor diesem *w* tritt nachher normale Ersatzdehnung mit Schwund des *z* ein, es wird also *ezw* > *ew (eu)*.

We still have to deal with D'ALQUEN's objection to BECH's thesis: the difficulty in believing that such a small premiss can be responsible for analogical extension to all verbs of the class. If we remember D'ALQUEN's theory, he had three infixes each of which was generalized as such and each analogically extended to some verbs of which the *-er-/-ez-* infix was the strongest. D'ALQUEN, from this standpoint, then points out that each of the infixes has an element in common with the others. This element is the /e/. At this stage D'ALQUEN brings into the arena the seventh class verbs which begin with a vowel. He states that "the number of class VII verbs beginning with a vowel is sufficiently large to create an analogical force". The interesting thing about these verbs in conjunction with the three infix types is that they each have this /e/ element. The reduplicating verbs with initial consonant would not be re-interpreted as infixing but would retain their reduplicating character. But perhaps the reduplication affix would become identified with the infixes of the other verbs and the *e*-element identified as the pertinent tense-distinguishing segment for both types of verb, reduplicational and infixational. In this way D'ALQUEN (1988, 108f.) proposes a "superinfix -e-".

> The spread of such infixes [*-ez-/-er-*, *-ew-*, *-ey-*] must have been hampered by the dissimilarity of the consonants involved, and indeed the presence at all of a consonant in the infix. This gave a decided advantage to the infix *-e-*, that grew out [of] the reduplicating prefix on verbs with no initial consonant... (1988, 117)

So far infixation seems to provide at least a possible and innovative answer in trying to explain the derivation of the Class 7 preterites which do not have reduplication; however as LLOYD (1971, 712) has pointed out one of the difficulties with infixation is the fact that Germanic did not use infixation productively in any other aspect of the morphology.

> The process of infixation does not seem to have been productive any longer in Proto-Germanic; the few infixes inherited from Indo-European no longer served any recognizable grammatical purpose, and probably for this reason soon began to fade away or be levelled out in the various dialects (e.g. *-n-* in Gothic *standan/stōþ*, but OHG *stantan/stuont*). It is therefore already improbable that a form **feƀall* would have been interpreted as formed with an infix *-eƀ-* by a people unaccustomed to infixation as a grammatical marker. (LLOYD 1971, 712)

This is a problem which not even D'ALQUEN addresses in his work seventeen years later, but perhaps it is one which cannot really be addressed. Typologically, and following LLOYD,

infixation would seem to be improbable, especially in such a diffuse way as D'ALQUEN envisages it. And yet as a descriptive analysis, and with the refinements to BECH that D'ALQUEN makes, the theory appears relatively satisfactory on paper and accounts for a lot of the problem forms that dot the seventh classes of the early Germanic dialects.

5.2.4.9 Concluding Remarks to Class 7

We have seen exactly how the seventh class of verbs is structured in the various Germanic dialects, noting especially the fact that the verbs use reduplication as a means of tense distinction in Gothic as opposed to the ablaut relationships which are evidenced in the other dialects. The excursus pointed out that despite this opposition between Gothic and North & West Germanic, there appears, in fact, to be some evidence to speak in favour of reduplication at some point having had a wider circulation than purely in Gothic. In Anglian and in Old Norse verb forms occur which can be interpreted as reflexes of reduplicated preterites. Even in OHG scholars have seen in some strange forms with *r*-elements a possible derivation in reduplication. If the overwhelming evidence from Gothic did not exist, it would be easier to reject these isolated forms from the other dialects as scribal errors. Gothic, however, renders impossible all attempts to overlook these. The very fact that Gothic only shows reduplication in these few verbs is, of course, problematic. In addition, the lack of evidence to show a wider spread of reduplication into other verb classes is puzzling. It has been shown that the verbs in Class 7 are those which on the whole have weaker etymologies than the verbs in the other classes, and yet even so they retain a tense morpheme from earlier periods in the IE stratum rather than true innovation or analogy to the other classes. The process of morphological adaptation and analogy *is*, however, seen in the other Germanic dialects where an ablaut relationship does develop in which preterite formations exhibit *e*-vocalism.

In attempting to draw conclusions and make suggestions about the innovativeness and conservatism of the Germanic verb system in regard to morphonology, it is time to review the systematicity of all the classes together. Can we observe trends which transcend the arbitrariness of the classification system of the strong verbs and which thereby help to clarify the systematization in use in Germanic?

6. Conclusions

6.1 The System as a Whole

If we consider once again Table 2 which depicted an assumed state of play in the early Germanic verbal system, we will be able to consider the evidence and discussions from chapter 5 in relation to the entire system of verbal ablaut in Germanic.

Table 2

	Present	Preterite 1	Preterite 2	Past Participle
Class 1:	C+e+i+C	C+a+i+C	C+i+C	C+i+C
Class 2:	C+e+u+C	C+a+u+C	C+u+C	C+u+C
Class 3:	C+e+R+C	C+a+R+C	C+u+R+C	C+u+R+C
Class 4:	C+e+R	C+a+R	C+ē+R	C+u+R
Class 5:	C+e+C	C+a+C	C+ē+C	C+e+C
Class 6:	C+a+C	C+ō+C	C+ō+C	C+a+C
Class 7:	C+a+i+C C+a+u+C C+a+R+C C+ō+C C+ē+C	Reduplication	Reduplication	C+a+i+C C+a+u+C C+a+R+C C+ō+C C+ē+C

For a survey of the early stages of the Germanic languages, where postulation of a "Germanic" system is still a plausible and accurate undertaking, such a table as the one above is useful. If one were to follow the development of ablaut relationships through the history of the various dialects, then one would see that the relationships that we have discussed and depicted become fragmented. Work by HEMPEN (1988) and BORN (1980) show this fragmentation particularly well and use it as the basis for making statements about the state of the modern German ablaut system. Our data in the early dialects is relatively free from such disintegration in the system, but the greater problem at this stage is the role of reduplication and the bipartite nature of the system as a whole. It will have been noted that the classes of the Germanic verbal system can be split into those which have an *e*-element in the present tense and those which have an *a*-element (excepting for the moment the difficulties presented by the verba pura and impura with long vocalism in the present tense, e.g. *slēpan*, *būan*, *hwōpan*). This has been an important factor in recent treatments of the Germanic verbal system. Especially important in this respect is the work of VAN COETSEM.

6.2 VAN COETSEM and Mirror Analogy

VAN COETSEM's early monograph (1956) on the subject of the systematization of the Germanic verbs produced a completely new way of looking at the system. He noticed that the various types of vowel alternation evinced by the verbs of Class 7 are a mirror-image of those evinced by verbs of Class 1 to 5, the vowel of the preterite of these latter classes being that of the present in Class 7, and *vice versa*, in other words, not

Present **/e/** Preterite **/o/**

but

Present **/o/** Preterite **/e/**

with of course the usual change of IE /o/ to Gmc. /a/. This provides him with what he calls an *e*-group and an *a*-group, as follows:

e-group		*a*-group	
CeiC ~ CaiC	(Class 1)	CaiC ~ CeiC	(Class 7)
CeuC ~ CauC	(Class 2)	CauC ~ CeuC	(Class 7)
CeRC ~ CaRC	(Class 3)	CaRC ~ CeRC	(Class 7)

I introduced this notion of VAN COETSEM's earlier when talking of class seven verbs in Gothic in chapter 4, section **4.2.1**, but it is here that this theory deserves its proper and due consideration. Having noticed this inverse correlation, VAN COETSEM (1956) develops his theory of mirror analogy, claiming that this correlation was a result of the vocalic relationship between tense morphemes in the early Germanic languages. He believes that it is not so much a question of *o*-grade in the first five classes being distinctive of the preterite tense but that the alternation between *e*-grade and *o*-grade is distinctive of tense change. In this way *e*~*o*-alternation is in itself the tense morpheme. *o*-grade is not a tense morpheme, but rather the change from one grade to another represents the morpheme for the preterite or present tense respectively. He cites (1956, 55) Dutch examples in his defence:

> Das Nebeneinander von z.B. *ie/oo* in ndl. *ik schiet* "Ich schiesse" (Präsens) und *ik schoot* "Ich schoss" (Präteritum) und *ik loop* "Ich laufe" (Präsens), *ik liep* (Präteritum) dürfte eine beweisende Parallele dafür bieten.

However, as BECH (1969, 52) rightly points out the "parallel" is in fact no such thing.

> Die angebliche Parallele ist aber keine Parallele, sondern ein Beispiel der Verbalflexion, die es zu erklären gilt.

VAN COETSEM's example does not explain anything, but is an attempt at typologically justifying the mirror analogy hypothesis. Unfortunately, because the example is also taken from Germanic, its efficacy is questionable. In addition the historical development of the Dutch verbs suggests less a mirror analogy as motivation rather than an accidental mirror-image as a result of phonological changes. All the examples do is exemplify the idea that

you can have verbs whose present-preterite vocalism is in inverse ratio to the preterite-present vocalism of other verbs.

Although VAN COETSEM's theory excited a lot of enthusiasm when first proposed, scholars were quick with their reasons for throwing it out, if not by criticizing the logic and questioning the examples of VAN COETSEM, then by pointing to the difficulty of reverse analogy as a linguistic principle. If VAN COETSEM's best example is the phenomenon he is trying to explain then the likelihood of mirror analogy as a principle is called into question. BECH (1969, ibid.) objects also to VAN COETSEM's liberal definition of the principle of analogy:

> Analogie ist die Übertragung einer auf Ausdruck und Inhalt sich beziehenden Opposition auf weitere Fälle, die dadurch dieselbe Verteilung von Elementen des Ausdrucks und des Inhalts bekommen wie das Vorbild.

In the case of VAN COETSEM, the analogy is not complete; there is in fact no analogy. If anything it is almost an anti-analogy, where the forms deliberately try to be different from the pattern to be copied. D'ALQUEN (1988, 103-104) sums up the general feeling on the matter:

> Well argued and thought-provoking, it created much discussion, but scarcely a following because most found the inverse analogy implausible.

One who did find the reverse analogy plausible is the Swiss scholar SONDEREGGER. In his *Grundzüge deutscher Sprachgeschichte* (1979, 88-89) he explains the strong verb system in Germanic purely in terms of COETSEM's theory. He lists the verb classes in a similar way to the small table above, setting Class 7 alongside Classes 1-3, and Classes 4 and 5 alongside 6. Classes 4 and 5 do share the same consonantal structure with Class 6 but apart from this any other similarity is complicated. They do both use lengthening as a tense morpheme, but not in comparable ways. Class 6 has lengthening in both preterite forms, Classes 4 and 5 only in the preterite plural form.

Of course, whether one accepts the theory or not, the argumentation does appear to work for the first three classes of strong verbs and for most of the verbs of class seven. But this does, unfortunately, leave a good deal of strong verbs in Germanic out of account. Classes 4 and 5 find no reverse analogy partners in the rest of the system and neither do Class 6 or the verba pura and impura of class 7. At most the reverse analogy solution would appear to be a solution *in extremis*; if all other classes have a satisfactory ablaut relationship then those that do not, i.e class 7, need a way of conforming to the ablaut patterns of the other classes. Hence reverse analogy. This is poor logic on the part of VAN COETSEM. His solution also falls foul of being, on the surface, far too neat and tidy. Born out of structuralist theorizing.

the solution is slave to the notion of universal structures, which the evidence from Gothic would seem to refute. Gothic, in its handling of the verbs of Class 7 shows clearly that the verbal system was not completely coherent. Its use of reduplication almost forbids us from characterizing the entire system in one simple structure. It shows us that the verbal system is much more complicated than VAN COETSEM would have us believe. It can, however, be argued that the collapse of reduplication in the other Germanic dialects shows that the system was correcting itself towards a unified system after an age of uncertainty caused by the jostling for position of two competing tense morphemes: reduplication and ablaut. Even if this is the case, what we are left with when reduplication *is* lost is, nevertheless, no unified structure because there are too many verb classes which are still unaccounted for (Classes 4. 5 and 6 and the long vowel verbs of Class 7). The later "decay" of the strong verb system and the use of ablaut in it clearly shows that the structures set up by VAN COETSEM (1980, 1983, 1990) can necessarily only be of use in a synchronic study of early Germanic. It does not explain the further development of the Germanic strong verb system in later stages of the languages; nor does it really explain other problems within the early Germanic strong verb system, such as the occurrence of lengthened grade in the preterite plural alternants of Classes 4 and 5. All mirror analogy can purport to be is motivation for the restructuring of reduplicating forms in the ablaut system. And in order for this to work, VAN COETSEM, as we have seen in section **5.2.4.7**, must rely on a derivation of the strange vowel /ē²/ which leaves a lot to be desired in terms of the technicalities in the functioning of his proposed *a*-umlaut versus *i*-umlaut. That the derivation of /ē²/ is in itself questionable and also that the logical and typological reasoning of the mirror analogy concept appears faulty both speak against VAN COETSEM's conclusions. What does this leave us with in the way of unity for a consideration of the strong verb system?

6.3 Reconciling the System

Although ingenious, VAN COETSEM's system has been shown to be defective in two respects; but this leaves us wondering whether in fact there is any systematicity through the entire strong verb system. Can the strong verbs be regarded as a distinct and coherent group?

As we have seen during the course of this investigation, the traditional classification system of the Germanic strong verbs is based on phonological phenomena. The verbs have been categorized in the way that they have because the verbs that have been ascribed to each of the classes could be seen to have phonological structures different from those in other groups. The traditional numbering from 1-6 (or 7 depending on one's view of the treatment of the reduplicating verbs) does, in fact, retain a certain amount of coherence despite the apparent arbitrariness of the numbering. Classes 1-3 clearly exhibit resonances of patterns seen in some Greek verbs (qualitative gradation), and in a different respect to patterns seen

in Sanskrit and Greek (reduced grade). Classes 4 and 5 continue this resonance in the preterite singular formations, but both utilize lengthening as a tense morpheme in the preterite plural. Class 6 extends ths principle of lengthening amongst verbs for which qualitative gradation on the IE model was not possible. Class 7 then becomes the problem. In effect, the first three classes can be taken as one type. The principle of ablaut in each of the these three classes is exactly the same. The single problem is the development of the vowel in the reduced grade preterite plural and PP forms of Class 3, which if completely parallel with developments in Classes 1 and 2 would merely show vocalic nasals and liquids. This development, however, can be regarded, nevertheless, as consistent (see **5.2.1**). Classes 4 and 5 can to a certain extent be included in the unit formed by the first three classes. The present ~ preterite singular alternation is based on the same principle of *e~o* alternation, and the past participle, at least in Class 4, echoes the development in the PP of Class 3. With Classes 4 and 5 a new ablaut alternation pattern is established: lengthened grade. This can be seen in a number of ways, whether as a continuation of IE lengthened grade aorists or as a result of reduction from reduplicated forms according to the Sanskrit examples in section **5.2.3.2**. Class 6 also introduces the notion of length into the Germanic ablaut system, and as I have pointed out, (**5.2.3.1** & **5.2.3.2**), the verbs had little choice but to utilize a lengthening process if they were still to use vowel alternation as a means of signifying tense differences. Class 6 may have provided the model for the lengthening in Classes 4 and 5. As we saw modal verbs akin to the strong verbs of classes 4 and 5 exhibit forms which suggest that the verbs of Classes 4 and 5 could have originally followed a line of development in keeping with Classes 1-3, i.e. *e*-grade ~ *o*-grade ~ reduction ~ reduction. Class 6 might have led the way to the acceptance of lengthening as a tense distinction morpheme. This then also necessarily paves the way for the lengthening we see in Class 7. Class 7 is at a disadvantage, because a large number of the verbs ascribed to this group are without clear IE etymologies, but must be seen as Germanic innovations. As such it is not surprising that they attach themselves to a tense morpheme which is itself an innovation. There may be IE models for lengthening as a way of distinguishing tense but not to any systematic extent as we see it in Germanic. In this way it can be said that the Germanic strong verbs use patterns in existence at an earlier stage, but develop their use to a much greater degree. And as such the strong verbs can be seen as a coherent system, they do, after all, all show ablaut as the tense-modifying morpheme.

7. Appendices

7.1 Sanskrit Verbal Paradigms[1]

7.1.1 Present Tense Classes

Thematic classes

Class **1**: √*bhū*- "be"

	Pres. Act.	Pres. Middle	Imperf. Act.
1s	*bhávāmi*	*bháve*	*ábhavam*
2	*bhávasi*	*bhávase*	*ábhavas*
3	*bhávati*	*bhávate*	*ábhavat*
1du	*bhávāvas*	*bhávāvahe*	*ábhavāva*
2	*bhávathas*	*bhávethe*	*ábhavatam*
3	*bhávatas*	*bhávete*	*ábhavatām*
1pl	*bhávāmas*	*bhávāmahe*	*ábhavāma*
2	*bhávatha*	*bhávadhve*	*ábhavata*
3	*bhávanti*	*bhávante*	*ábhavan*

Class **4**: √*nah*- "bind"

1s	*náhyāmi*	*náhye*	*ánahyam*
2	*náhyasi*	*náhyase*	*ánahyas*
3	*náhyati*	*náhyate*	*ánahyat*
1du	*náhyāvas*	*náhyāvahe*	*ánahyāva*
2	*náhyathas*	*náhyathe*	*ánahyatam*
3	*náhyatas*	*náhyete*	*ánahyatām*
1pl	*náhyāmas*	*náhyāmahe*	*ánahyāma*
2	*náhyatha*	*náhyadhve*	*ánahyata*
3	*náhyanti*	*náhyante*	*ánahyan*

Class **6**: √*vic*- "enter"

1s	*vicāmi*	*vicé*	*ávicam*
2	*vicási*	*vicáse*	*ávicas*
3	*vicáti*	*vicáte*	*ávicat*
1du	*vicāvas*	*vicāvahe*	*ávicāva*
2	*vicáthas*	*vicáthe*	*ávicatam*
3	*vicátas*	*vicéte*	*ávicatām*
1pl	*vicāmas*	*vicāmahe*	*ávicāma*
2	*vicátha*	*vicádhve*	*ávicata*
3	*vicánti*	*vicánte*	*ávican*

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1 See BURROW (1955), WHITNEY (1971) and COULSON (1992).

Class **10**: √*cint*- "think, meditate"

1s	*cintáyāmi*	*cintáye*	*ácintayam*
2	*cintáyasi*	*cintáyase*	*ácintayas*
3	*cintáyati*	*cintáyate*	*ácintayat*
1du	*cintáyāvas*	*cintáyāvahe*	*ácintayāva*
2	*cintáyathas*	*cintáyethe*	*ácintayatam*
3	*cintáyatas*	*cintáyete*	*ácintayatām*
1pl	*cintáyāmas*	*cintáyāmahe*	*ácintayāma*
2	*cintáyatha*	*cintáyadhve*	*ácintayata*
3	*cintáyanti*	*cintáyante*	*ácintayan*

Athematic Classes

Class **2**: √*dvis*- "hate"

1s	*dvésmi*	*dvisé*	*ádvesam*
2	*dvéksi*	*dviksé*	*ádvet*
3	*dvésti*	*dvisté*	*ádvet*
1du	*dvisvás*	*dvisváhe*	*ádvisva*
2	*dvisthás*	*dvisāthe*	*ádvistam*
3	*dvistás*	*dvisāte*	*ádvistām*
1pl	*dvismás*	*dvismáhe*	*ádvisma*
2	*dvisthá*	*dviddhvé*	*ádvista*
3	*dvisánti*	*dvisáte*	*ádvisan*

Class **3**: √*hu*- "sacrifice"

1s	*juhómi*	*júhve*	*ájuhavam*
2	*juhósi*	*juhusé*	*ájuhos*
3	*juhóti*	*juhuté*	*ájuhot*
1du	*juhuvás*	*juhuváhe*	*ájuhuva*
2	*juhuthás*	*júhvāthe*	*ájuhutam*
3	*juhutás*	*júhvāte*	*ájuhutām*
1pl	*juhumás*	*juhumáhe*	*ájuhuma*
2	*juhuthá*	*juhudhvé*	*ájuhuta*
3	*júhvati*	*júhvate*	*ájuhavur*

Class **5**: √*su*- "press out"

1s	*sunómi*	*sunvé*	*ásunavam*
2	*sunósi*	*sunusé*	*ásunos*
3	*sunóti*	*sunuté*	*ásunot*
1du	*sunuvás*	*sunuváhe*	*ásunuva*
2	*sunuthás*	*sunuvāthe*	*ásunutam*
3	*sunutás*	*sunuvāte*	*ásunutām*
1pl	*sunumás*	*sunumáhe*	*ásunuma*
2	*sunuthá*	*sunudhvé*	*ásunuta*
3	*sunvánti*	*sunváte*	*ásunvan*

Class **7**: √*yuj*- "join"

1s	*yunájmi*	*yuñjé*	*áyunajam*
2	*yunáksi*	*yunksé*	*áyunak*
3	*yunákti*	*yunkté*	*áyunak*
1du	*yuñjvás*	*yuñjváhe*	*áyuñjva*
2	*yunkthás*	*yuñjāthe*	*áyunktam*
3	*yunktás*	*yuñjāte*	*áyunktām*
1pl	*yuñjmás*	*yuñjmáhe*	*áyuñjma*
2	*yunkthá*	*yungdhvé*	*áyunkta*
3	*yuñjánti*	*yuñjáte*	*áyuñjan*

Class **8**: √

1s	*tanómi*	*tanvé*	*átanavam*
2	*tanósi*	*tanusé*	*átanos*
3	*tanóti*	*tanuté*	*átanot*
1du	*tanvás*	*tanváhe*	*átanuva*
2	*tanuthás*	*tanvāthe*	*átanutam*
3	*tanutás*	*tanvāte*	*átanutām*
1pl	*tanmás*	*tanmáhe*	*átanuma*
2	*tanuthá*	*tanudhvé*	*átanuta*
3	*tanvánti*	*tanváte*	*átanvan*

Class **9**: √*krī*- "buy"

1s	*krīnāmi*	*krīné*	*ákrīnām*
2	*krīnāsi*	*krīnīsé*	*ákrīnās*
3	*krīnāti*	*krīnīté*	*ákrīnāt*
1du	*krīnīvás*	*krīnīváhe*	*ákrīnīva*
2	*krīnīthás*	*krīnāthe*	*ákrīnītam*
3	*krīnītás*	*krīnāte*	*ákrīnītām*
1pl	*krīnīmás*	*krīnīmáhe*	*ákrīnīma*
2	*krīnīthá*	*krīnīdhve*	*ákrīnīta*
3	*krīnánti*	*krīnáte*	*ákrīnan*

7.1.2 Perfect Paradigms

	√*budh*- "know"	√*nī*- "lead"	√*kr*- "do"	√*tan*- "stretch"
Active				
1s	*bubódha*	*ninája*	*cakára*	*tatána*
2	*bubódhitha*	*ninétha*	*cakártha*	*tatántha*
3	*bubódha*	*ninā́ya*	*cakā́ra*	*tatā́na*
1du	*bubudhivá*	*ninyivá*	*cakrvá*	*tenivá*
2	*bubudháthus*	*ninyáthus*	*cakráthus*	*tenáthus*
3	*bubudhátus*	*ninyátus*	*cakrátus*	*tenátus*
1pl	*bubudhimá*	*ninyimá*	*cakrmá*	*tenimá*
2	*bubudhá*	*ninyá*	*cakrá*	*tená*
3	*bubudhús*	*ninyús*	*cakrús*	*tenús*

7.1.3 Aorist Paradigms

Non-Sigmatic Aorists

	Root Aorist		a-Aorist	Reduplicated Aorist
	√*bhū*- "be"	√*dhā*- "out"	√sic- "pour"	√jan- "give birth"
Active				
1s	*ábhūvam*	*ádhām*	*ásicam*	*ájījanam*
2	*ábhūs*	*ádhās*	*ásicas*	*ájījanas*
3	*ábhūt*	*ádhāt*	*ásicat*	*ájījanat*
1du	*ábhūva*	*ádhāva*	*ásicāva*	*ájījanāva*
2	*ábhūtam*	*ádhātam*	*ásicatam*	*ájījanatam*
3	*ábhūtām*	*ádhātām*	*ásicatām*	*ájījanatām*
1pl	*ábhūma*	*ádhāma*	*ásicāma*	*ájījanāma*
2	*ábhūta*	*ádhāta*	*ásicata*	*ájījanata*
3	*ábhūvan*	*ádhus*	*ásican*	*ájījanan*

Sigmatic Aorists

	s-Aorist	is-Aorist	sis-Aorist	sa-Aorist
	√*nī*- "lead"	√*pū*- "cleanse"	√*yā*- "go"	√*dic*- "point"
1s	*ánāisam*	*ápāvisam*	*áyāsisam*	*ádiksam*
2	*ánāisīs*	*ápāvīs*	*áyāsis*	*ádiksas*
3	*ánāisīt*	*ápāvīt*	*áyāsīt*	*ádiksat*
1du	*ánāisva*	*ápāvisva*	*áyāsisva*	*ádiksāva*
2	*ánāistam*	*ápāvistam*	*áyāsistam*	*ádiksatam*
3	*ánāistām*	*ápāvistām*	*áyāsistām*	*ádiksatām*
1pl	*ánāisma*	*ápāvisma*	*áyāsisma*	*ádiksāma*
2	*ánāista*	*ápāvista*	*áyāsista*	*ádiksata*
3	*ánāisus*	*ápāvisus*	*áyāsisus*	*ádiksan*

7.2 The Strong Verbs of Germanic

7.2.1 Class 1

Gothic	*OEnglish*	*OSaxon*	*OHG*	*ONorse*	*Meaning*[2]
beidan	bīdan	bīdan	bītan	bíða[3]	"wait"
beitan	bītan	bītan	bīzan	bíta	"bite"
	blīcan	blīkan[4]	blīchan	blíkja	"glimmer"
*deigan[5]					"knead"
dreiban	drīfan	drīban	trīban	drífa	"drive"
	drītan			dríta	"shit"
	dwīnan				"fade"
				fisa	"fart"
		*-flīhan[6]			"direct"
	flītan	flītan	flīzan		"vie"
	-gīnan			gína	"yawn"
	glīdan	glīdan[7]			"glide"
		glītan[8]	glīzan		"glisten"
	gnīdan		gnītan		"rub"
			grīnan		"whimper"
greipan	grīpan	grīpan	grīfan	grípa	"grasp"
	-grīsan				"fear"
			(h)līban	hlífa[9]	"protect"
	-hlīdan	hlīdan			"close"
hneiwan	hnīgan	hnīgan	(h)nīgan	hníga	"bow"
				*hnípa[10]	"bend"
	hnītan	*hnītan[11]		hníta	"shove"
				hrífa	"grip"
	hrīnan	hrīnan	rīnan	hrína[12]	"touch"
				hrína	"scream"
		*hrītan[13]			"rip"

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[2] The meanings are loose and imprecise in regard to specific languages, but are there to try and give a general idea of the meaning of the proto-form.

[3] PP is *beðinn* and not the expected *biðinn*.

[4] Only extant in the present tense.

[5] The actual forms attested are, according to SEEBOLD (1970), a present participle and a strong past participle, both with short /i/. Accordingly, I place the verb in Class 1 with the expected vocalism for this class, namely /ei/, simply because it cannot fit anywhere else with i-vocalism.

[6] No extant present forms.

[7] Only extant in the present tense.

[8] Likewise only extant in the present tense.

[9] Normally weak, but a strong PP exists.

[10] Usually a weak verb but there does exist a strong PP *hnipenn*.

[11] Only one example: the imperative *ofnit*.

[12] No preterite forms extant.

[13] The only form of this verb is a dat. pl. present participle: *hrítanthion*, although both HOLTHAUSEN (1921) and GALLÉE (1910) list it . There are possible links with *wreit-a-*, according to SEEBOLD, especially as the the form is glossed as *scribentibus*; however there exists a weak preterite *ritta*.

	hwīnan			hvína	"whistle"
keinan[14]	cīnan	kīnan	kīnan		"grow/bud"
	-clīfan[15]	-klīban[16]	klīban	klífa	"cling"
	cnīdan				"beat"
	-cwīnan				"disappear"
				*kvíða[17]	"fear"
*-leiban[18]	-līfan	-līþan[19]	-līban	blífa	"remain"
leihwan[20]	līon	līhan	līhan	ljá[21]	"lend"
-leiþan	līþan	līthan[22]	līdan	líða	"go"
	mīgan			míga	"piss"
	mīþan	mīðan	mīdan		"avoid"
	nīpan				"darken"
*neiwan[23]					"be angry"
	rīdan	*-rīdan[24]	rītan	ríða	"ride"
				rífa	"tear"
			-rīchan		"conquer"
	rīnan[25]				"rain"
	rīpan				"reap"
-reisan	rīsan	rīsan	rīsan	rísa	"rise/fall"
			-rīman[26]		"count"
				rísta	"tear"
	sīgan	*sīgan[27]	sīgan	síga	"sink"
	sēon		sīhan		"sieve"
	sīcan				"sigh"
				síða	"enchant"
		*skīðan[28]			"split"
?skeinan	scīnan	skīnan	skīnan	skína	"shine"
	*-scītan[29]		*-scîzan[30]	skíta	"shit"

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14 Present tense and strong PP *kijans* exist. Weak preterite *keinoda* exists.
15 Only compound present forms.
16 Only compound present forms.
17 Just a participial form *ó-kviðinn* "unafraid".
18 Only a preterite *bilaif*.
19 Only extant in the present tense.
20 Only present tense forms.
21 Usually weak but for some strong relics: 1st sg. pres. *lé* and PP *léner*.
22 No examples of the preterite tense extant.
23 Only a preterite form *naiw*, corrected from *naiswor*; no other Germanic evidence.
24 Just a PP *umbi-ridun* extant.
25 SEEBOLD: secondary formation as a result of /ig/ > /ī/, so that the verb had the requisite vocalism for this class.
26 Appears twice in Otfrid in the preterite, *gereim*. Otherwise weak, SEEBOLD sees it as a secondary formation and possibly only for the sake of the rhyme, which often in Otfrid's case produces unusual forms.
27 No extant present tense forms.
28 Not in SEEBOLD, but GALLÉE and HOLTHAUSEN list it, HOLTHAUSEN lists the PP from which the verb is presumably inferred. SEEBOLD does, in fact, list this PP as an irregularity for the normally class 7 ablauting *skēdan*. Whether there is a variant form that belongs here is debatable.
29 Only the form *besciten*.

		*skrīan[31]	scrīan[32]		"shout"
	scrīfan	skrīƀan	skrīban		"write"
-skreitan[33]					"rend"
	scrīþan	skrīðan	skrītan	skríða	"step"
	slīdan				"slide"
			slīchan		"creep"
	*slīfan[34]				"split"
			slīfan		"grind"
	slītan	slītan	slīzan	slíta	"slice"
*smeitan[35]	smītan	*-smītan[36]	smīzan		"throw"
			*snīwan[37]	sníva[38]	"snow"
sneiþan	snīþan	snīðan	snīdan	sníða	"cut"
speiwan	spīwan	*spīwan[39]	spīwan	(spýja 2)	"spew"
steigan	stīgan	stīgan	stīgan	stíga	"climb"
	strīdan		strītan		"fight"
	strīcan[40]		strīchan		"stroke"
			swīnan		"disappear"
sweiban					"stop"
	swīfan			svífa	"wend"
	swīcan	swīkan	swīchan	svíkja	"deceive"
			*swīdan[41]	svíða	"burn"
-teihan	tēon[42]	-tīhan[43]	zīhan	tjá[44]	"accuse"
þeihan	þēon[45]	-thīhan[46]	dīhan		"thrive"
	þīnan				"become moist"
				þrífa	"thrive"
þreihan	(þringan 3)		(dringan 3)	(þryngva 3)	"press"
	þwīnan				"dwindle"
	þwītan				"cut off"

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30 Only the gloss *piscizzano* to Lat. *oblite* which is normally glossed *pismizzan*. Seebold poses the question whether there are here two verbs or a mistake.

31 Only a plural preterite form *scriun*.

32 In the preterite plural and the PP this verb often exhibits an intervocalic /r/: *scrirun*, *giscriran*. Following BRAUNE (1987) the verb also later shows forms with intervocalic /w/; it seems there was some confusion, structurally, with this verb and *spīwan*.

33 Listed as Class 1 in WRIGHT (1954), but the only forms that exist are present tense.

34 Only the preterite *to-slāf*.

35 Only preterite singular, *-smait*.

36 Only a PP.

37 A present and possibly a PP.

38 Normally weak, but there is a strong PP and a strong present tense.

39 Only a Pret. pl. *spiwun*.

40 Present tense only attested.

41 One present tense form in Otfrid.

42 The contracted verbs of OE, originally from different classes (I-III), tend to be of indeterminate conjugation. *Tēon* shows forms acc. to class 2, especially in the preterite.

43 Only in the present tense.

44 Only relics of strong conjugation: present *té* and PP *tiginn*.

45 Shows regular forms acc. to Class 3 and some to Class 2.

46 Shows a PP with Class 3 vocalism and nasal rime.

weihan	(-wegan 5)		(wehan 5)	(vega 5)	"fight"
	wīcan	*wīkan[47]	wīchan	víkja	"yield"
weipan[48]			wīfan[49]		"wind"
			*wīsan[50]	*visa[51]	"wilt"
			wīsan		"avoid"
	-wītan	-wītan	-wīzan		"go"
-weitan	wītan	wītan[52]	wīzan		"reproach"
	wlītan			líta	"look"
			rīban		"rub"
	wrēon[53]		-rīhan		"cover"
	wrīdan[54]		*rīdan[55]		"grow"
	wrīðan		-rīdan	ríða	"wind"
	wrītan	wrītan	rīzan	ríta	"write"

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47 Only a preterite singular *wēc*.
48 Only present tense.
49 Only a PP *be-wifen* meaning "unhappy".
50 Only a PP *wesaner* meaning "moist, rotten".
51 Only a PP *visinn* meaning "wilted".
52 Only attested in the present tense.
53 Like the other contracted forms there is vacillation between classes. This one shows forms acc. to Class 2.
54 Only in the present tense.
55 Only the PP *ga-ridad* as a gloss to Lat. *ortus* "risen, grown".

7.2.2 Class 2

Gothic	*OEnglish*	*OSaxon*	*OHG*	*ONorse*	*Meaning*
-biudan	bēodan	biodan	biotan	bjóða	"offer"
biugan	būgan	*biogan[56]	biogan	*bjúga[57]	"bend"
(bliggwan 3)		*-bliuwan[58]	bliuwan		"beat"
	brūcan	brūkan[59]	brūchan[60]		"use"
	brēotan			brjóta	"break"
	brēoðan		*briodan[61]		"ruin"
	brēowan	*briuwan[62]		*brjúga[63]	"brew"
				*djúfa[64]	"cripple"
	dūfan			dúfa[65]	"dive"
			*tūchan[66]		"dive"
driugan[67]	drēogan				"endure"
		driogan	triogan		"deceive"
	drēopan	driopan	triofan	drjúpa	"drip"
driusan	drēosan	driosan[68]			"fall"
				fjúka	"fly"
	flēogan		fliogan	fljúga	"fly"
	flēotan	fliotan	fliozan	fljóta	"flow"
	frēosan		friosan	frjósa	"freeze"
	*gēopan[69]				"take up"
				gjósa	"bubble"
giutan[70]	gēotan	giotan	giozan	gjóta	"pour"
				gyggva[71]	"shock"
	grēotan[72]	griotan[73]			"cry"
			*griozan[74]		"rub"
*hiufan[75]	(*hēafan 7)	hioban[76]	*hiofan[77]		"mourn"

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56 Only a preterite sing. and a PP.
57 Only a preterite pl. and a PP.
58 Only the present tense form *-bliuwid*.
59 Only strong infinitives attested.
60 Strong infinitive and present forms and a strong PP alongside a weak one attested. Later attested preterites are weak.
61 Only a present tense form *briudid*.
62 Only a strong PP.
63 Only the PP *brugenn*.
64 Just a PP *dofenn* "lame"; the existence of a corresponding strong verb to this participle is uncertain.
65 Only present tense forms.
66 Preterite pl. and PP only.
67 Only present tense forms.
68 Only present tense forms.
69 Just the preterite singular form *geap*.
70 No preterite forms attested.
71 Only extant in the present tense and as a PP.
72 Only present tense evidence.
73 Likewise only present tense evidence.
74 Only PP's *fergrozzeniu* & *gigrozzan*.

				húka[78]	"cower"
	hlēotan	hliotan	liozan[79]	hljóta	"cast lots"
-hniupan[80]	*hnēopan[81]				"rip"
			*(h)niosan[82]	hnjósa	"sneeze"
			niuwan	hnøggva	"shove"
			*(h)niotan[83]	hnjóða	"beat"
	*hrēodan[84]			*hrjóða[85]	"adorn"
				*hrjúfa[86]	?
				hrjósa	"quake"
	hrēosan		*hriosan[87]		"fall"
				hrjóta	"burst"
	hrūtan	hrūtan[88]	(h)rūzan	hrjóta	"snore"
				hrjóða	"clear"
	hrēowan	hreuwan	(h)riuwan		"hurt"
kiusan	cēosan	kiosan	kiosan	kjósa	"choose"
	cēowan		kiuwan	tyggva	"chew"
	clēofan	*klioban[89]	klioban	kljúfa	"cleave"
	crūdan				"crowd"
			kriochan[90]		"crawl"
	crēopan			krjúpa	"creep"
kriustan[91]					"gnash"
				*lyja[92]	"push"
liudan[93]	lēodan	liodan	-liotan	*ljóða[94]	"grow"
liugan[95]	lēogan	liogan[96]	liogan	ljúga	"tell lies"
	lūcan[97]		-liohan[98]		"uproot"

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[75] Only the preterite plural *hufun*.
[76] Only present tense forms, although *hōf* in OE points to the same in OS.
[77] Only present forms *hiufit* and *hiupit*, which SEEBOLD intimates may well be weak.
[78] Normally weak but there is a strong PP *hokenn*.
[79] No preterite forms.
[80] Only a present participle.
[81] Just a preterite singular: *a-hneop* and *ge-neop* which are explained as dialectal for expected forms with /ēa/ (the dialect being, perhaps, Northumbrian).
[82] Only present forms.
[83] Only present tense forms *pihniutit*, *phiniudid*.
[84] No present tense forms.
[85] Only a PP *hroðenn* meaning "covered in metal".
[86] There is a PP *hrufenn* which means "shaggy", so that it is possible that there may have been a corresponding strong verb; as to its meaning though, there remains a question mark.
[87] Only the one present tense form *hriusu*.
[88] Only present tense forms.
[89] No present forms.
[90] Only an infinitive.
[91] Only a strong present tense form.
[92] Merely what appear to be strong PPs *lúenn* and *luinn*.
[93] Only present tense forms.
[94] There is only a PP *loðinn* with the meaning "hairy", there may have been a verb, especially with the evidence from the other dialects taken into account.
[95] Only occurs in the present tense.
[96] Only occurs in the present tense.

-lukan	lūcan	-lūkan	lūchan	lúka	"close"
-liusan	-lēosan	-liosan[99]	-liosan		"lose"
	(lēoran[100])				"go/pass"
				ljósta	"shove"
	lūtan			lúta	"bow"
niutan	nēotan	niotan[101]	niozan	njóta	"enjoy"
	rēodan			rjóða	"redden"
	*rēofan[102]			rjúfa	"rip"
	rēocan		riohhan	rjúka	"smoke"
	rēotan[103]		riozan	rjóta[104]	"cry"
				*rjóta[105]	"rot"
	sūgan	sūgan[106]	sūgan	súga	"suck"
siukan[107]					"be sick"
	sūcan				"suck"
	sūpan		sūfan	súpa	"sup"
	sēoðan		siodan	sjóða	"seethe"
-skiuban	scūfan		skioban		"shove"
	scēotan	skietan[108]	skiozan	skjóta	"shoot"
	*scūdan[109]				"rush"
sliupan	slūpan		sliofan		"slip"
		*sliotan[110]	sliozan		"close"
	smūgan		*smiogan[111]	smjúga	"creep"
	smēocan				"smoke"
				*snjóða[112]	"bare?"
(sniwan 5)	snēowan?[113]				"hurry"
(speiwan 1)	(spīwan 1)	(spīwan 1)	(spīwan 1)	spýja[114]	"spew"

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97 No preterite forms attested.

98 No preterite forms attested.

99 No preterite forms attested.

100 The verb is weak , but there are a few occurences of strong participles. SEEBOLD suggests the verb is influenced by the forms for *lēosan*, and thus the strong forms. However this may be, there is not enough proof for the conjecture of a strong verb with this root.

101 Only present tense forms attested.

102 Only a PP *rofen* meaning "broken".

103 No preterite forms attested.

104 Only a present tense meaning "ring dull".

105 The PP *rotinn* "rotten" might suggest a corresponding verb, but this remains uncertain.

106 Only present tense forms attested.

107 Only attested in the present tense, a preterite is found but rendered periphrastically with the verb *wisan* "to be".

108 Just one occurrence, in a gloss, in this form.

109 Just a present participle, but insufficient to decide whether the verb is strong or not.

110 Just the PP example *ut-bi-slotenun* for Lat. *seclusis*.

111 Gloss example *chismoginiu* to Lat. *contractos* is the only example.

112 The lone example of a PP? *snoðenn*, "balding", might suggest the existence of a corresponding strong verb.

113 Only appears in the present tense, but where it belongs is a difficult question. If it really belongs with a type snōwan, then one might set it alongside the Class 7 verbs; whatever, the link with Gothic sniwan, as a result of the meaning of the two forms, must surely be safe.

	sprēotan	sprūtan[115]			"burgeon"
			stioban		"scatter"
				stúpa[116]	"jut out"
	strūdan				"plunder"
				strjúka	"stroke"
tiuhan	tēon	tiohan	ziohan	*tjúga[117]	"pull"
	þēotan		diozan	þjóta	"sound"
þliuhan	flēon	fliohan	fliohan	flýja[118]	"flee"
-þriutan[119]	þrēotan	*thriotan[120]	-driozan	þrjóta	"vex"

114 Although all the other dialects have forms acc. to Class 1, ON shows this form with strong links rather with Class 2.

115 Just the present tense form *ūt-sprūtan*.

116 Just an infinitive.

117 A PP *togenn* "drawn".

118 Preterites *fló*, *flugom*, perhaps rather to *fljúga*; otherwise *flýja* is weak.

119 Just a present tense attested.

120 Just a PP *a-throtan*.

7.2.3 Class 3

Gothic	*OEnglish*	*OSaxon*	*OHG*	*ONorse*	*Meaning*
	belgan	belgan	belgan	*belga[121]	"be angry"
			-bellan	bella	"meet"
	bellan		bellan[122]		"bark/roar"
bindan	bindan	bindan	bintan	binda	"bind"
baírgan[123]	beorgan	*bergan[124]	bergan	bjarga	"protect"
	beorcan				"bark"
bliggwan			(bliuwan 2)		"beat"
	bregðan	*bregðan[125]	brettan	bregða	"twist"
briggan	bringan	bringan	bringan		"bring"[126]
brinnan[127]	beornan/birnan	brinnan	brinnan	brenna	"burn"
	berstan	brestan	brestan[128]	bresta	"burst"
	delfan	-delƀan	-telpan		"delve"
				detta	"fall"
	deorfan				"labour"
drigkan	drincan	drinkan	trinkan	drekka	"drink"
	feohtan	fehtan[129]	fehtan[130]		"fight"
filhan	fēolan	-felhan	felhan	(fela 4)	"press"
finþan	findan[131]	fīðan/findan	findan	finna	"find"
	*feortan[132]		ferzen[133]	freta[134]	"fart"
	*fleohtan[135]	flehtan[136]	flehtan[137]		"weave"
(fraíhnan 5)	fregnan[138]	*fregnan[139]		(fregna 5)	"ask"
-gildan[140]	gieldan	geldan	geltan	gjalda	"pay"

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[121] Just the PP *bolgenn* "swollen".
[122] Only present forms of the strong verb extant.
[123] Just evidence of the present tense.
[124] Just the preterite form *gi-barg*.
[125] Just a preterite plural *brugdun*.
[126] All of these dialects show preterites with the weak dental suffix in addition to the ablauted root vowel. OHG also shows expected regular strong forms and OE has a regular strong PP.
[127] Only present tense and a preterite singular form.
[128] Notker shows preterite plural forms with the vocalism of class 4 *brāstun*.
[129] Only examples in the present tense.
[130] Preterite plural forms with expected /u/ vocalism are uncommom; more usual are forms with /ā/: *fāhtun*. This is also the case with *flehtan*: *flāhtun*.
[131] As well as forms according to Class 3, also the preterite plural *fǣlon*, according to Class 4 (cf. ON *fela*).
[132] Just the noun *feorting*, which might point to a corresponding strong verb.
[133] Only examples from the present tense exist.
[134] Only exists in the preterite singular as well as the present tense. As a result it is hard to say which class the verb might belong to. In the form listed here one would perhaps say Class 5, but the /r/ is irritating as so many Class 3 verbs have the liquid or nasal preceding the root vowel.
[135] Only example in the compound *flohten-fōte fugelas*, "birds with webbed feet".
[136] No forms for the preterite attested.
[137] See note to *fehtan*.
[138] Preterite plural and PP also according to Class 5: *frægnon*, *fregnen*.
[139] No present forms attested.
[140] No preterite forms attested.

	giellan		gellan	gjalla	"scream"
	gielpan				"boast"
-ginnan	-ginnan	-ginnan	-ginnan		"begin"[141]
*gaírdan[142]					"gird"
	*gerran[143]				"creak"
				*gnella[144]	"shout"
				gnesta	"crash"
	grimman[145]	grimman[146]	crimman[147]		"rage"
	grindan				"rub"
		*hellan[148]	hellan[149]		"sound"
hilpan	helpan	helpan	helfan	hjalpa	"help"
			hinkan		"limp"
-hinþan					"catch"
	hlimman		limman[150]	*hlimma[151]	"intone"
	*hrempan[152]		rimpfan		"shrink"
	*hrindan[153]			hrinda	"shove"
				hrøkkva	"withdraw"
	*-hrespan[154]		respan[155]		"rip"
				*hvelfa[156]	"curve"
hwaírban[157]	hweorfan	hwerƀan	werban[158]	hverfa	"turn"
	ceorfan				"cut"
	*cerran[159]		kerran		"creak"
	*climban[160]		klimban[161]		"climb"

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[141] OS and OHG also show weak forms with a dental suffix in the preterite alongside the more usual strong forms.

[142] Just PP *-gaúrdans*.

[143] Just the preterite plural form *gurron*.

[144] Just the preterite plural form *gnullu*; although OI and OSwed. both show an infinitive.

[145] Really only present forms although a now usually amended preterite *grummon* might have suggested strong conjugation.

[146] Just present forms.

[147] Only present forms, and probably weak; also confusion with *krimman*.

[148] Only a preterite plural form *hullun*.

[149] The PP acc. to SEEBOLD is *gihellan* which is inexplicable and out of character for the class. In this form the verb does not belong to any conventional class. It is categorized here on the basis of its phonological structure.

[150] Only present forms which cannot confirm strong status.

[151] Only the απαξ λεγομενον *hlam*, which could, acc. to SEEBOLD, be an unusual strong form for the weak *hlymja*.

[152] Just a PP *ge(h)rumpan*.

[153] Just a preterite singular *rand*.

[154] Only occurs in the present tense.

[155] No preterite forms attested.

[156] There is the PP *holfinn*, which may suggest a corresponding strong verb; a similar verb exists only twice in MHG.

[157] Only occurs in the present tense.

[158] Forms also with /f/ for /b/, SEEBOLD sees this as "zerrütteten grammatischen Wechsel".

[159] Just the preterite plural form *curran*.

[160] Only preterite forms, both singular and plural, are attested.

[161] Only present forms attested.

		klingan[162]			"ring"
	clingan	clingan[163]			"cling"
			kløkkva		"groan"
		krimman			"scratch"
	crimman[164]	*crimman[165]			"stuff"
		*krimpfan[166]	*kreppa[167]		"shrink"
	cringan				"fall"
			kretta		"murmer"
	*cwellan[168] quellan[169]	quellan			"gush"
	-cwolstan?[170]				"swallow"
	-cwincan				"fade"
	*-cwerran[171]				"swallow"
	limpan	limpfan			"befall"
		*-lingan[172]			"succeed"
-linnan[173]	linnan	-linnan			"leave"
		leskan[174]	-leskan		"extinguish"
	melcan	melkan[175]			"milk"
	meltan				"melt"
	murnan				"mourn"
		*nindan[176]			"strive"
				røkkva[177]	"darken"
rinnan	iernan	rinnan	rinnan	rinna/renna	"run"
	-seolcan[178]		*selkan[179]		"languish"
siggwan	singan	singan	singan	syngva	"sing"
sigqan	sincan	sinkan	sinkan	søkkva	"sink"
	sinnan		sinnan		"go"
	serðan[180]		*serdan[181]	serða	"fuck/bugger"[182]

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[162] Only present forms are attested.
[163] Only present tense forms are attested.
[164] No preterite forms attested.
[165] One present form *cachrumman* attested.
[166] Just the one glossed example *hrimfit*, *krimfit*.
[167] Only a PP *kroppenn* meaning crippled.
[168] Just the term *collen-ferhð* meaning "proud, bold".
[169] Only evidence from the present tense.
[170] There is only the single example of this verb in the present. Whether it is strong or not is uncertain; and what class it might follow is equally uncertain. I put it here as a result of the consonantal structure of the root, but perhaps it belongs to Class 7? No cognates make any supposition unsafe.
[171] There is just the PP *ā-cworran* meaning "drunk, full", from which it might be possible to extract a verb. IE cognates might suggest this as a possibility.
[172] No present tense form attested.
[173] Only a present tense form.
[174] Only present tense evidence.
[175] No preterite forms attested in OHG.
[176] The unique preterite *nand* in Otfrid, otherwise no evidence.
[177] No preterite forms found in the evidence.
[178] No preterite forms attested.
[179] Just a PP *arselchen*, from which we might infer a strong verb.

			skjálfa	“quake”
		skeltan		“scold”
	sciellan[183]	skellan	skjalla	“sound”
	sceorfan			“gnaw”
	sceorpan			“scrape”
			*skerpa[184]	“shrink”
		*skerran[185] skerran		“scrape”
	*scrimman[186]			“clench”
			skreppa	“slip”
		skrintan		“gape”
	scringan/scrincan			“shrink”
			sleppa	“slip”
-slindan[187]		*slindan[188] slintan		“swallow”
	*slingan[189]	slingan	slyngva	“slide”
	slincan			“creep”
			*slinta[190]	“slide”
		*smeltan[191] smelzan		“melt”
	smeortan[192]	smerzan[193]		“smart”
		-snerahan[194]		“tie”
	*snerkan[195]		*snerka[196]	“shrink”
		snerfan[197]		“shrink”
			snerta	“touch”
spinnan[198]	spinnan	spinnan	spinna	“spin”
	spornan	-spurnan[199] -spurnan[200]	*sporna[201]	“tread”

[180] A present tense example obviously borrowed from the Norse.
[181] A couple of Gloss examples in the preterite perhaps point to a strong verb.
[182] Perhaps more accurately the meaning should be “practise (un)natural sex”.
[183] Only present tense, so that strong affiliation is uncertain.
[184] Just a PP *skorpenn* meaning “wrinkled”, a possible verb might be inferred.
[185] Just a PP *ofgiscorran*.
[186] Just evidence from the present tense, so that it is impossible to say with certainty that it was strong.
[187] Only extant in the present tense.
[188] Only example the preterite *farsland* “swallowed”.
[189] Only example is a preterite form *slang*.
[190] Just the preterite *slatt*, although the verb exists in OSwed. and Modern Swed.
[191] Just a preterite singular form is extant.
[192] Only in the present tense are there examples.
[193] As for OE the examples of this verb in OHG are all present tense forms.
[194] There are no examples from the preterite tense.
[195] Just a preterite singular *gesnerc* although it would seem that the vocalism is unusual for the preterite of this class.
[196] Just the PP *snorkinn* meaning “wrinkled”.
[197] Examples only of the present tense.
[198] Appears in this form just once.
[199] Example of the present tense only.
[200] The verb occurs frequently, but usually with a weak preterite, although there are some relict examples of the original strong conjugation.
[201] Uncertain whether there are clear examples of the strong forms of a verb like this, weak forms, however, exist.

	springan	*springan[202]	springan	springa	"jump"
	*sprintan[203]			spretta	"jump"
	stingan		stingen[204]	stinga	"sting"
stigqan	stincan		stinkan	støkkva	"shove"
	steorfan	sterþan[205]	sterban		"die"
			*sterkan[206]	*sterka[207]	"grow numb"
	stregdan				"strew"
	swelgan		swelhan	svelga	"swallow"
	swellan	swellan[208]	swellan[209]	svella	"swell"
swiltan	sweltan	sweltan	swelzan[210]	svelta	"die"
	swimman		swimman	svimma	"swim"
	swindan	-swindan[211]	swintan		"fade"
	swingan	*swingan[212]	swingan		"swing"
	swincan				"toil"
-swaírban	sweorfan[213]	*swerþan[214]	swerban	sverfa	"rub"
	sweorcan	swerkan[215]			"darken"
	teldan[216]				
	*tingan[217]				"press"
	*tinnan[218]				"burn"
*-trimpan[219]					"tread?"
			-trinnan		"escape"
	þindan				"swell"
	(þēon 1)[220]				"thrive"
-þinsan[221]		*thinsan[222]	dinsan		"pull"
*-þaírsan[223]					"dry"

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202 Evidence from the preterite tense only.
203 Just a preterite, *gesprant* meaning "announced".
204 One example of this; may be strong.
205 Only examples from the present tense.
206 The unique PP *kistorchenen* suggests a strong verb.
207 Just the PP *bloð-storkenn* meaning "numb".
208 Only found in the present tense.
209 Not found in the preterite tense.
210 Appears once in the present tense in a gloss. Meaning uncertain, the Latin it glosses points to "burn up", but acc. to SEEBOLD this is surely wrong.
211 Appears once as an infinitive.
212 Does not appear in the present tense.
213 Does not appear in the preterite tense.
214 Only appears in the preterite singular.
215 Does not appear in the preterite tense.
216 No preterite forms extant.
217 Appears once in the preterite singular *ge-tang*. Acc. to SEEBOLD not an original strong verb.
218 Appears just once in the present tense in figurative usage.
219 One example in the preterite singular *ana-tramp*.
220 This verb, listed under Class 1 with cognates from the other dialects, in OE shows forms according to Class 3 pointing to a Gmc. root for this verb with a nasal **penha-*.
221 Only appears in the present tense.
222 Only appears in the form *uerthinse*.
223 Appears only in the PP *ga-thaírsans* "dried".

		*thrimman[224]			"swell"
(þreihan 1)	þringan	thringan	dringan	þryngva	"press"
	þrintan[225]				"swell"
þriskan[226]	þerscan		dreskan		"thresh"
		thwingan	dwingan		"force"
				þverra	"fade"
	*wellan[227]	-wellan[228]	wellan	vella	"surge"
			wellan		"roll"
				velta	"roll"
wilwan					"rob"
-windan	windan	windan	wintan	vinda	"wind/wend"
winnan	winnan	winnan	winnan	vinna	"labour/win"
waírpan	weorpan	werpan	werfan	verpa	"throw"
		werran	werran		"confuse"
waírþan	weorþan	werðan	werdan	verða	"become"
	wringan	*wringan[229]	ringan		"wring"
-wrisqan[230]				*reska[231]	"grow"

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224 Only occurs in the preterite singular *thram*.
225 No forms for the preterite tense attested.
226 Only occurs in the present tense.
227 Only occurrence in the compound *wollen-tear* "streaming tears".
228 Does not occur in the preterite tense.
229 The PP *ut-gi-wrungana* alone occurs.
230 Just the present participle *ga-wrisqands* "bearing fruit".
231 Just the PP *roskenn* "grown".

7.2.4 Class 4

Gothic	*OEnglish*	*OSaxon*	*OHG*	*ONorse*	*Meaning*
baíran	beran	beran	beran	bera	"bear"
brikan	brecan	brekan	brechan		"break"
			*breman[232]		"roar"
	(drepan 5)	(drepan 5)	treffan	(drepa 5)	"beat"
	*dwelan[233]	*-dwelan[234]	twelan		"delay/err"
(filhan 3)	(fēolan 3)		(felhan 3)	fela[235]	"hide"
	helan	helan	helan		"conceal"
	*hlecan[236]				"fit"
	hwelan[237]				"roar"
	cwelan	quelan	quelan		"suffer"
qiman	cuman	kuman	(queman 5)	koma	"come"
			queran		"sigh"
niman	niman	niman	neman	nema	"take"
	scieran		skeran	skera	"shear"
				*sløkkva[238]	"extinguish"
	(sprekan/spekan 5)	sprekan	sprehhan		"speak"
		stekan[239]	stehhan		"stab"
stilan[240]	stelan	stelan	stelan	stela	"steal"
	stenan				"groan"
	swefan[241]			sofa	"sleep"
	swelan[242]		swelan[243]		"smoulder"
			sweran		"fester"
-timan[244]	*-teman[245]		zeman		"befit"
-taíran	teran		zeran		"tear"
trudan[246]	(tredan 5)		(tretan 5)	troða	"tread"[247]

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[232] There is a single preterite form *pram*, which one might attribute to a verb **breman*, but it could quite easily belong to a verb **bremman*, which we see in MHG in *brimmen* which conjugates according to the verbs of Class 3. Thus the existence of a verb **breman* is doubtful.

[233] Only exists as a PP *gedwolen* "mistaken".

[234] Only exists as a PP *fardwolen* "missed".

[235] The PP is *folginn* which is as Class 3, but the preterite is acc. to Class 4 *fál, fálu*.

[236] A present *hleceð* and a PP *tohlocene* suggest a corresponding strong verb as here.

[237] Only a present tense example, evidence for strong verb therefore weak.

[238] Just the strong PP *slokenn*, to an otherwise weak verb.

[239] No PP extant so assigning a class is difficult, especially when the OHG cognate defies its structure and has o-vocalism in the PP.

[240] The only extant forms are from the present tense.

[241] There is no extant PP, so this verb could well have belonged to Class 5, which, considering its structure, is more likely. The ON verb occurs exclusively with Class 4 PP-vocalism, for this reason I put the OE verb alongside it; it is possible, even likely, that the OE is a borrowing from ON.

[242] Only exists in the present tense.

[243] Likewise only occurs in the present tense.

[244] Only occurs in the present tense.

[245] GALLÉE lists this verb, but SEEBOLD knows no evidence for it.

[246] There are no examples of this verb in the preterite tense.

			trechan[248]		"pull"
	þweran[249]		dweran		"stir"
	(wefan 5)		(weban 5)	vefa	"weave"
wulan[250]					"seethe"
(wrikan 5)	(wrecan 5)	(wrekan 5)	rehhan	(reka 5)	"pursue"

[247] It is possible to re-interpret the PP's of both Go. *trudan* and ON *troða* as not containing o-vocalism but as copies of the present tense; if this is how we see the formation of the PP for class 5 verbs then these two forms might belong there instead.

[248] Just the one occurrence of the PP *pitrohhanemo*.

[249] No forms extant in the preterite tense.

[250] Only occurs in the present tense; the verb is often set alongside Gmc.**wellan* "surge" in Class 3

7.2.5 Class 5

Gothic	*OEnglish*	*OSaxon*	*OHG*	*ONorse*	*Meaning*
bidjan	biddan	biddian	bitten	biðja	"bid"
*diwan[251]				(deyja 6)	"die"
	drepan[252]	drepan[253]	(treffan 4)	drepa	"beat"
itan	etan	etan	ezzan	eta	"eat"[254]
	fēon		fehan		"rejoice"
	*fetan[255]		*fezzan[256]	feta	"fall"
fitan[257]					"bear"
			fnehan		"breathe"
fraíhnan	(fregnan 3)	(fregnan 3)	*fregnan[258]	fregna	"ask"
giban	giefan	geƀan	geban	gefa	"give"
-gitan	-gietan	-getan	-gezzan	geta	"achieve"
hlifan					"steal"
			redan		"sieve"
				hvika[259]	"sway"
		gedan[260]	jetan[261]		"weed"
		gehan[262]	jehan	*já[263]	"assure"
			jesan[264]		"ferment"
		*klenan[265]	klenan		"smear"
	cnedan	*knedan[266]	knetan		"knead"
			kresan		"creep"
(qiman 4)	(cuman 4)	(kuman 4)	queman[267]	(koma 4)	"come"
qiþan	cweðan	queðan	quedan	kveða	"say"

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251 Two participial uses of a form with this root might suggest a verb *diwan*, perhaps to be conjugated in the same way as *sniwan*.

252 A PP with /o/ is also found pointing to Class 4.

253 Only occurs in the present tense, so that assigning to a particular class can only be done according to structure of the root and not to actual forms.

254 For all the dialects except OS (a lack of extant preterite forms means one cannot be sure) the singular preterite form has the same vocalism as the preterite plural, a long vowel. For Gothic recourse must be made to the verb *fra-itan* "devour" which does have a preterite singular form in contrast to *itan*. OE,OS *fretan* and OHG *frezzan* are treated as compounds of Gmc. **etan* and thus not listed separately.

255 Only occurs once in the preterite singular *gefæt*.

256 Not found in the present or PP.

257 Only appears in the present tense, and it is also hard to tell whether this is a strong verb or not.

258 The Wessobrunner Gebet has the form *gafregin*, the strong verb from which we might postulate as Class 5.

259 The single preterite *hvak* "swayed" to an otherwise weak verb.

260 No preterite forms extant.

261 No preterite forms extant.

262 Only extant in the present tense.

263 Just one PP *jáenn*.

264 Only found in the present tense in OHG.

265 Just the PP *biklenan*, showing class 5 vocalism despite the Class 4 structure.

266 Just a PP *giknedan*, and a possible present form *knedon*.

267 The PP found most often and which can be described as the regular PP is with the vocalism /e/ rather than /o/ which would be suggested by the structure of the verb as a Class 4 type.

ligan	licgan	liggian	liggen	liggja	"lie"
			lechan[268]	leka	"leak"
lisan	lesan	lesan	lesan	lesa	"collect"
mitan	metan	metan[269]	mezzan	meta	"measure"
-nisan	nesan	-nesan	-nesan		"survive"
*niþan[270]					"support"
	plēon	plegan[271]	phlegan		"risk/care for"
rikan[272]			*rechan[273]		"rake"
	*repan[274]				"chastise"
	*repan[275]				"reap"
saíhwan	sēon	sehan	sehan	sjá	"see"
sitan	sittan	sittian	sizzen	sitja	"sit"
			-skehan		"happen"
	screpan				"scrape"
sniwan	(snēowan 2)				"hurry"
	sprekan/spekan	(sprekan 4)	(sprehhan 4)		"speak"
			stredan		"seethe"
		*swekan[276]	swehhan[277]		"smell"
			*swedan[278]		"smoulder"
(trudan 4)	tredan		tretan[279]	(troða 4)	"tread"
		tregan[280]		trega[281]	"deceive"
	þicgan			þiggja	"receive"
	*þrekan[282]				"fear"
	wefan	*weþan[283]	weban	(vefa 4)	"weave"
-widan			wetan		"join"

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[268] There also exist PP's for this verb with o-vocalism like the verbs of Class 4. In addition there are no extant forms for the preterite tense.

[269] Only the present tense form *metan*.

[270] Only a 2nd singular present subjunctive form *niþais*, which is hardly enough upon which to base proof of a strong verb.

[271] Only a present form *plegan*, meaning "be responsible for".

[272] Only extant in the present tense.

[273] Two examples of the verb are found, but as PP's only, *berechene & pirchhanum* (?).

[274] Only occurs as a PP *for-repen*; thus insufficient data for conclusive postulation of strong verb.

[275] As well as the forms given for the strong verb *rīpan*, there exists the preterite form *rēpon* which would suggest a similar verb in Class 5, or are they merely confused? Acc. to SEEBOLD later forms suggest a verb of this class rather than those of Class 1.

[276] Acc. to SEEBOLD this is due to a misreading by HOLTHAUSEN of a form *sueuid* as *swekit*.

[277] Only a present form survives, when taken with the previous entry for OS, it might seem questionable to postulate a strong verb here at all.

[278] In Otfrid the two forms *suidit* and *siudit* occur together, as a result some posit the existence of a strong verb **swedan*.

[279] Although I can find no reason why this should not be the case, this verb is not listed in SEEBOLD. I can only assume this is a mistaken omission on his part.

[280] Only appears in the present tense.

[281] Does not appear in the preterite tense.

[282] There exists the one example *on-þræc*, to an otherwise weak verb *on-þracian*; the preterite can really only be secondary and positing a strong verb is unsound.

[283] Listed by GALLÉE but denied by SEEBOLD.

-wigan[284]	-wegan	wegan[285]	-wegan	vega	"move"
(weihan 1)	-wegan[286]		-wehan[287]	vega	"fight"
wisan	wesan	wesan	wesan	vera/vesa	"be"
wisan			*wesan[288]		"indulge"
wrikan	wrecan	wrekan	(rehhan 4)	reka	"pursue"

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284 Just the evidence of a PP.
285 No preterite forms extant.
286 No preterite forms extant.
287 No preterite forms extant.
288 The following PP's might suggest a corresponding strong verb: *ferwesen*, *firwesiner*, *vrezaner*, *verwesen*.

7.2.6 Class 6

Gothic	*OEnglish*	*OSaxon*	*OHG*	*ONorse*	*Meaning*
				aka	"go"
	acan[289]				"ache"
alan[290]	alan			ala	"nourish"
*-anan[291]					"breathe"
	bacan	*bakan[292]	bachan		"bake"
-daban	*dafan[293]				"befit"
(diwan 5)				deyja	"die"
*-draban[294]					"hollow out"
dragan[295]	dragan	dragan	tragan	draga	"drag/draw"
faran[296]	faran	faran	faran	fara	"go/fare"
	flēan			flá	"flay"
*fragan[297]					"ask"
fraþjan					"understand"
	galan		galan	gala	"sing"
				geyja`	"bark"
	gnagan	k(a)nagan[298]	gnagan	gnaga[299]	"gnaw"
graban	grafan	graƀan	graban	grafa	"dig"
hafjan	hebban	heffian	heffen	hefja	"lift"
			*hagan[300]		"tend"
hlahjan	hliehhan	*hlahhian[301]	*hlahhen[302]	hlæja	"laugh"
*-hlaþan[303]	hladan	hladan[304]	(h)ladan	hlaða	"load"
				*hnafa[305]	"cut off"
	calan			kala	"freeze"
				kefja[306]	"suppress"

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289 Only forms from the present tense are extant.
290 Only extant in the present tense.
291 Only an isolated preterite form *uz-ōn*, is found meaning "breathed his last".
292 There is possibly a form *gibak*, although this could very well be a noun in its context.
293 There is just the form *gedafen* meaning "appropriate".
294 There is the singular PP *gadraben*; which in Otfrid appears as OHG *irgrabanaz*, which SEEBOLD uses to posit that the Go. form is a scribal error.
295 Only appears in the present tense.
296 Only appears in the present tense.
297 The one form *fragiþ*, which in the parallel manuscript appears as *fraisiþ*. One should perhaps bear in mind the dialectal use of *fragen* in moden German and Dutch as a strong verb. In this period, however, there is not enough evidence for a strong verb.
298 Appears just once with this very OHG-looking phonology.
299 No preterite forms extant.
300 Just one very unclear PP *gehain*, which has a superscripted *g*.
301 No present tense forms are extant.
302 Just one preterite form *hloc*.
303 Just one PP *af-hlaþans* "laden".
304 Extant forms from the present tense only.
305 The unique form *hnóf* meaning "cut off".
306 Preterites , acc. to SEEBOLD, are not attested, although NOREEN (1884) cites the existence of preterites *kóf* and *kófu*.

	(clāwan 7)			klá	"scratch rub"
	lēan	lahan	lahan		"rebuke"
			laffan		"slurp"
malan[307]		*malan[308]	malan[309]	mala	"grind"
*-raþjan[310]					"count"
		-seffian	-sebben		"perceive"
sakan	sacan	sakan	sahhan		"argue"
skaban[311]	scafan	skaƀan[312]	skaban[313]	skafa	"shave"
	sceacan	*skakan[314]		skaka	"shake"
-skapjan	scieppan	skeppian	skepfen	skepia	"create"
skaþjan	scieþþan				"injure"
slahan	slēan	slahan	slahan	slá[315]	"beat"
			snahhan		"slide"
	spanan	spanan	spanan		"tempt"
standan	standan	standan	stantan	standa	"stand"[316]
	stæppan	*steppian[317]	*steppan[318]		"step"
swaran	swerian	swerian	swerien	sverja	"swear"[319]
	tacan[320]			taka	"take"
	*þracan[321]			*þraka[322]	"endure?"
þwahan	þwēan	thwahan	dwahan	þvá	"wash"
	wadan		watan	vaða	"wade"
		*wahan[323]	*-wahan[324]		"mention"
wahsjan	(wēaxan 7)	wahsan	wahsan	vaxa	"grow"
	wæcnan			*vakna[325]	"wake"
	(wascan 7)	*waskan[326]	waskan		"wash"

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307 Only extant in the present tense.
308 Only appears as a PP *gimalan*.
309 No preterite forms are extant.
310 Just one example of the PP *garaþana*, thus insufficient data to be sure.
311 No preterite forms extant.
312 Only extant in the present tense.
313 No preterite forms are extant.
314 There is only the preterite singular *skōk* extant.
315 As well as the normal preterite formation according to Class 6 there are also forms with an *-er-* infix analogously to the verba pura of Class 7: *slera*, *slerum*.
316 The /n/ of the present is also found in the preterite of the OHG verb and in the PP of the OHG, OS, OE verbs. No PP is extant in Gothic, so one cannot be sure whether the PP did, in fact, have the nasal infix of the present tense.
317 Only examples from the preterite tense.
318 Just a very unclear *stoptun* in the Hildebrandslied.
319 All dialects, except Go. for which the forms are not extant, show Schwundstufe in the PP, instead of the present vocalism as the other verbs of this class do.
320 Borrowed from the Norse.
321 An adjective/PP *ge-þracen*, meaning "strong/enduring".
322 Just a PP/adjective *þrekinn* meaning "enduring".
323 Just one form *giuuegi*, and this itself is uncertain.
324 Not extant in the present tense.
325 Just a PP *vakenn* "awake".
326 Only a preterite form *wōsk* extant.

7.2.7 Class 7 (Reduplicating Class)

Gothic	*OEnglish*	*OSaxon*	*OHG*	*ONorse*	*Meaning*
-aikan			eichan[327]		"deny/vindicate"
				*eika[328]	"rush"
-alþan[329]				*alþa[330]	"grow old"
arjan[331]			erren		"plough"
	*ēadan[332]	*ōdan[333]		*auða[334]	"grant"
aukan	*ēacan[335]	*ōkan[336]	auhhan[337]	auka	"increase"
				ausa	"create"
	bannan	bannan[338]	bannan[339]		"summon"
	bēatan		bōzan[340]	bauta[341]	"beat"
			bāgan		"fight"
blandan[342]	blandan[343]	*blandan[344]	blantan	blanda	"mix"
	blāwan		*blahan[345]		"blow"
-blēsan[346]			blāsan	blása	"blow"
	blōwan				"bloom"
blōtan[347]	blōtan		bluozan[348]	blóta	"sacrifice"
bnauan[349]			*nūan[350]	gnúa[351]	"rub"
bauan[352]	būan[353]	būan[354]	būan[355]	búa	"live"

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327 No forms in the preterite tense extant.
328 There is just the PP *eikenn* extant which might suggest the corresponding strong verb.
329 Only found as a present participle *us-alþans* meaning "frail".
330 Only the PP *aldenn* meaning "old, out of date".
331 Only present tense forms are extant.
332 Just the PP *ēaden* "granted".
333 Just the PP ōdan "given".
334 Just a PP *auðenn* meaning "bestowed".
335 Just a PP *ēacen* "broad, mighty".
336 Only a PP ōkan meaning "pregnant".
337 Only found in the present tense.
338 Only extant in the present tense.
339 No preterite tense forms are extant.
340 Only found in the present tense.
341 No extant forms for the preterite tense.
342 Only extant in forms from the present tense.
343 No extant forms from the preterite tense.
344 The only form extant is a PP *giblandan* "mixed with something bad".
345 Only occasionally does one find a strong PP to averb that otherwise conjugates weak.
346 No extant forms from the preterite tense.
347 No extant forms in the present tense.
348 No preterite tense forms extant.
349 Only extant as a present participle *bnauandans*.
350 Two forms, *noen* and *kinoen*, may point to this verb.
351 There is the form *bnere*, but otherwise the verb has the form *gnía*, with preterite tense forms with *er* like the other verba pura in ON.
352 Present tense forms only.
353 Preterite forms are weak.
354 Just an infinitive.
355 Generally a weak verb, but in Otfrid there are strange strong forms with an *r*, similar to the verba pura preterites of ON.

	brædan1[356]	*brādan[357]	brātan		"roast"
		*brōkan[358]			"fashion from wood?"
	*dēagan[359]		*tougan[360]		"hide"
	drædan[361]	drādan	-trātan		"fear"
faian[362]					"rebuke"
			*falgan[363]		"bend?"
	feallan	fallan	fallan	falla	"fall"
			*falzen[364]		"beat"
*falþan[365]	fealdan		faldan	falda	"fold"
fāhan	fōn	fāhan	fāhan	fá	"catch"
				*fúa[366]	"rot"
	flōwan				"flow"
*-flōkan[367]	flōcan[368]	flōkan[369]	-fluohhan[370]	*floka[371]	"beat"
fraisan					"tempt"
gaggan[372]	gangan[373]	gangan	gangan	ganga	"go"[374]
	glōwan				"glow"
grētan	grætan[375]	*grātan[376]		gráta	"cry"
	grōwan			gróa	"grow"
haitan	hātan[377]	hētan	heizan	heita	"(be) call(ed)"
(*hiufan 2)	*hēafan[378]	(hioban 2)	(*hiofan 2)		"mourn"
haldan[379]	healdan	haldan	haltan	halda	"hold"

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356 No preterite forms, and the present forms are perhaps rather weak.

357 No extant forms for the present tense.

358 There is a single PP *gibruocan* which might be taken as coming from an infinitive **brōkan*, more than this cannot be said.

359 Just one instance in the preterite tense *dēog* "hid".

360 Just the PP/adjective *tougan* "secret".

361 The preterite *-dreord* in Anglian may point to reduplication.

362 Appears only as 3rd. pl. present pass. *faianda*.

363 There is the unique, but uncertain, gloss *ungafalgan* to Lat. *inflexa*.

364 The gloss *falcit*, *falzit* to the lat. *fulcit*. MHG also has twice a corresponding strong PP.

365 Only appears as a preterite singular.

366 There is the form *fúinn* "rotten", which one might assume has a verb which follows the other verba pura with a preterite with *er*.

367 Only appears in the preterite plural.

368 Only appears in the present tense.

369 No forms from the preterite tense are extant.

370 No forms from the preterite tense are extant.

371 Just the PP *flokenn* "confused".

372 With a suppletive preterite *iddja*.

373 As well as the preterite *gēong*, also suppletive forms ēode.

374 There also exist the forms *gān*, *gēn* in OE, OS and OHG. Corresponding preterites are not found, just present tenses and PP's.

375 Just present forms, cf. Class 2 *grēotan*; there must clearly be a relationship between *grætan* and *grēotan*, but exactly of what nature is unclear and the lack of preterite forms makes classification difficult. Comparison with OS is also barely conclusive.

376 One preterite form *griat*, cf. Class 2.

377 The preterite form *heht* is found in the dialect of Anglian which might suggest original reduplication. See Excursus.

378 Preterites behave like this class, although a *hōf* also implies Class 2 where it would seem the dubious forms from the other dialects belong.

hāhan	hōn	hāhan[380]	hāhan	hanga	"hang"
	hēawan	*hauwan[381]	houwan	høggva	"hew"
-hlaupan[382]	hlēapan	*hlōpan[383]	loufan	hlaupa	"run/leap"
	*hlōwan[384]		*lōwan[385]		"low"
	hrōpan	hrōpan	ruofan		"call"
	*-hwātan[386]	-hwātan[387]	(h)wāzan	hváta[388]	"push"
hwôpan	hwōpan				"threaten"
	hwōsan				"cough"
	clāwan			(klá 6)	"scratch"
	cnāwan	-knēgan[389]		kná[390]	"know"
	crāwan				"crow"
laikan	lācan[391]			leika	"play"
*laian(lauan)[392]					"revile"
-lētan	lætan	lātan	lāzan	láta	"let"
maitan			meizan		"cut off"
	māwan				"mow"
	*nēapan[393]				"overwhelm"
*-praggan[394]					"press"
	*rāwan[395]				"put in rows"
-rēdan	rædan[396]	rādan	rātan	ráða	"counsel"
			*rāchan[397]		"devote o.s."
	rōwan			róa	"row"
saltan[398]	sealtan[399]		salzan		"season"
saian	sāwan	sāian[400]	sāan[401]	sá	"sow"

379 No preterite forms are extant.
380 No preterite forms are extant.
381 No present tense form is extant.
382 Extant forms from the present tense only.
383 Just the preterite plural form *-hliopun*.
384 No sure strong form, just *hlēwð*.
385 No certain strong forms, perhaps *louu* from a gloss to lat. *mugio*.
386 Just a preterite singular form *āhwēt*.
387 Only present forms extant.
388 No extant forms for the preterite tense.
389 A difficult case, appears only as *bi-knēgan* "be a part of", SEEBOLD advises against it.
390 Affected analogically by preterite presents and has a weak preterite. Inflects like the pret-pres. *má* "can".
391 Preterites regularly have an extra *l* suggesting original reduplication: *leolc*, *leolcun*.
392 Just a preterite form *laíloun*. From this it is impossible to tell whether the vocalism of the present root is /ai/ or /au/, for both of which vocalisms there are examples in other verbs of this class.
393 Just a preterite *geneop*; too uncertain to be sure of the existence of a strong verb.
394 Just a PP *ana-praggans* "pressured".
395 One present participle *gerawende*, gloss to lat. *infindens*. There is the possibility of a PP *geræwen*, but Seebold treats this as a denominative adjective.
396 Preterite forms with an extra *r* suggest original reduplication, cf. *lācan*, *drēdan*, *hātan*.
397 One PP *ferrāchen*, which might suggest a strong verb.
398 No preterite forms are extant.
399 Likewise, no preterite forms are extant.
400 Generally weak but a strong preterite *obar-seu* exists, from which one might assume the present tense is also strong.

skaidan	scādan	skēdan	skeidan		"separate"
		skaldan[402]	skaltan		"shove"
		*skannan[403]			"roar"
			scrōtan[404]		"cut"
slēpan[405]	slæpan	slāpan[406]	slāfan		"sleep"
				snúa	"wind"
				sóa[407]	"sacrifice"
	spātan[408]				"spew"
			spaltan		"divide"
	spannan	*spannan[409]	spannan		"stretch"
	spōwan				"succeed"
staggan[410]					"stab"
-staldan	*stealdan[411]				"own"
stautan[412]		stōtan	stōzan[413]		"push"
	swāpan	*swēpan[414]	sweiffan[415]	sveipa[416]	"swing"
	swōgan	swōgan[417]			"overwhelm"
			zeisan		"pluck"
tēkan					"touch"
-þlaihan[418]					"cherish"
	þrāwan				"throw"
	*þrōwan[419]				"thrive"
(wahsjan 6)	wēaxan		(wahsan 6)	(vaxa 6)	"grow"
waldan[420]	wealdan	waldan	waltan	valda	"wield"
	wealcan		*walkan[421]		"roll"
	weallan	wallan	wallan		"well/roll"

401 Weak but for a strong PP.
402 Only extant in the present tense.
403 There is the single occurrence of a preterite *an-sciann* "roared".
404 Also relict, possibly reduplicated forms *kiscerot*.
405 Exhibits a reduplicated form which possibly shows effects of VERNER's Law: *saízlēp* versus *saíslēp*.
406 No preterite forms are extant.
407 No extant forms from the preterite tense.
408 There exists the present and in addition preterites with *f*: *speoft*, *speoftun*. Whether this represents a relic reduplicating form is debatable.
409 Just a PP *un-spannene*.
410 One example of an imperative *us-stagg*; often corrected to *-stigg* and ordered alongside *stingan*, q.v. above.
411 Just a preterite singular form *steold*.
412 The only extant examples are from the present tense.
413 Possible relic reduplicated form: *steroz*.
414 Just a preterite singular form *for-suuēp*.
415 No preterite forms are extant.
416 A mixed inflection; the Present and PP according to the red. class, the preterite according to class 1.
417 Only extant in the present tense.
418 Just a present *ga-þlaihan* "cherish".
419 Just one instance of a PP *geþruen*.
420 Only present forms are extant.
421 Just a PP *giwalchenemo*.

			walzan[422]	"roll"
waian	wǣwan[423]			"blow"
	wascan[424]	(*waskan 6)	(waskan 6)	"wash"
			*-wāzan[425]	"blow"
	wēpan	wōpian	wuofan	"weep"
	wrōtan[426]		*ruozzan[427]	"burrow"

422 Acc. to SEEBOLD originally weak, so that the strong forms found in the Wiener Genesis are secondary formations.

423 Only one present form extant, *wǣweð*, and a PP *biwaune*.

424 There are also pretertie forms with /ō/ suggesting that the verb may belong to class 6.

425 Two preterite forms, *verwiez* and *ferwiezot*, might suggest this strong verb.

426 Only extant in the present tense.

427 The one gloss *ruozzit* for Lat. *movit*.

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